

The study of ELF-transmitters either for civil or military purposes is particularly important in the scope of this survey, because alteration or manipulation of the ionosphere at a specific place inevitably alters the weather below. When transmitting in the VLF or ELF frequency range the ionosphere is sliced about in the same way of a space shuttle entering or leaving the atmosphere, leaving an incision at the point of impact. Due to the nature of propagation of VLF and ELF-waves these signals cause streams of particles to rain down beyond the horizon far from the transmitter and in the outermost regions of the atmosphere with very little loss of signal, altering the motion of free electrons and causing electronic rain that influence weather patterns.¹¹³ This opens a window towards peaceful applications but also military endeavors, as been demonstrated during the Vietnam conflict with operation Popeye.

In that respect it is worth to mention that the U.S. Air Force, the U.S. Navy and the Defense Advanced Research Projects Agency, together with an array of civil partners, have established HAARP in 1995 (test runs), the High Frequency Active Auroral Research Program. While the military provide technical expertise, management, administration and evaluation of the program its civil partners are partly responsible for the funding. According to official sources HAARP is a scientific endeavor aimed at studying the properties and behavior of the ionosphere by means of high power HF-transmitters aiming to manipulate the Aurora Borealis (Northern light), with particular emphasis on being able to understand and use it to enhance communications and surveillance systems for both civilian and defense purposes.¹¹⁴



The HAARP-antenna array at Anchorage, Alaska¹¹⁵

The main differences between the Russian or European stations and HAARP are as follows:

- When fully operational somewhere beyond 2010 the HAARP team will operate an ionosphere heater with an effective ERP well above 1 Giga Watt, in short the most powerful facility in the world.¹¹⁶ That would actually allow a concentration of one Watt per cubic centimeter, where its Russian counterparts are only able to deliver a millionth of one Watt.¹¹⁷

¹¹³ VLF, getting particles excited, Science News, Society for science and the Public, December 1982, P.392.

¹¹⁴ Official HAARP website, <http://www.haarp.alaska.edu/haarp/factSheet.html>

¹¹⁵ HAARP Cam, recorded on February, 7th 2010, official HAARP website.

¹¹⁶ HAARP, Joint Program Plans and Activities, Air Force Geophysics Laboratory, Navy Office of Naval Research, February 1990.

¹¹⁷ Amendment January 1987 to the original patent application of Bernard Eastlund for the subsequently issued U.S. patent number 4,686,605.

- Due to its high concentration of power HAARP can stab the ionosphere with a more focused beam, while the others spread it over an increasingly large area as the energy moves away from the transmitter.
- The safety limits for VLF-and ELF-waves in the HAARP final environmental impact statement were set a 1000 times higher than the level considered safe in the former Soviet Union.¹¹⁸

As a result of these developments in Alaska deputies held a heated discussion about HAARP in the Russian parliament, the Duma, in the year 2002. They even drew up an appeal to the President Putin and the UN. They demanded to set up an international commission for the investigation of the experiments conducted in Alaska, which has cynically been waved by the U.S. authorities, as HAARP is a 'pure scientific project'.¹¹⁹

Nevertheless, bearing in mind the outcome of project Sanguine and when looking closer at the mission statement of HAARP it is obvious that the system is more than a scientific project with possible leads for the D.O.D. (U.S. Department of Defense). It is actually a full-blown operational platform that greatly improves the performance of the U.S. military C3 system (Communications, Control and Command), combining all existing weapon systems in one device and making all other friendly or enemy systems obsolete.¹²⁰ In the 'National Defense Authorization Act for fiscal year 1995' it is even stated that the transmitter in Alaska, besides providing a world class research facility for ionospheric studies, could allow earth-penetrating tomography over the northern hemisphere, permitting the detection and exact location of tunnels and shelters.¹²¹

However, during communication with the public U.S. official sources have always denied that HAARP is a military system and on their official website nothing points in this direction. Moreover the military firmly contest that there is any link between HAARP and patent 4,686,605, a theory that is brought forward by Jean Manning and Dr. Nick Begich.¹²² This patent, which has been deposited by Bernard J. Eastlund on behalf of APTI Inc. (ARCO Power Technologies Inc.), contains 15 claims, ranging from a method to alter at least one region above the earth's surface with electromagnetic radiation over methods of providing artificial particles in the atmosphere excitation of electron cyclotron resonance.¹²³ If such a device would exist man made earthquakes would be within reach by manipulating the Schumann frequency through resonance.

By the matter of fact many bits and pieces of evidence do link the N°4,686,605 patent. First of all APTI, a small company holding an array of patents relating to weather modification and the initial HAARP contractor, was bought out to E-systems in June 1994¹²⁴ only to be bought out again in April 1995 by Raytheon Corporation – one of the main suppliers and biggest contractors in the U.S. Aerospace and defense industry.¹²⁵ A fact not to neglect is that Raytheon was also an initial and losing bidder for the HAARP project and the buy out some years later rewarded them instantly with the Eastlund technology plus the contract.¹²⁶ So it is pointless to argument that HAARP is civil

¹¹⁸ Lt. Col. David J. Dean USAF, Low Intensity Conflict and Modern Technology, Air University Press, Center for Aerospace doctrine, Research and Education, Maxwell Air Force Base, June 1986.

¹¹⁹ USA and Russia supposedly develop secret meteorological weapons, Pravda, English Edition, September 30th 2005.

¹²⁰ Idem as footnote 118.

¹²¹ National Defense Authorization Act for fiscal year 1995, 103rd congress, 2nd session, Report 103-82, Calendar 459, Report to accompany S.2182, Committee on Armed Services United States Senate, June 14th 1994.

¹²² Dr. Begich J & Manning J., Angels don't play this HAARP, advances in Tesla technology, page 17, Earthpulse press, Anchorage, ninth printing, 2007.

¹²³ U.S. patent 4,686, 605 – issued August 11th 1987 to Bernard J. Eastlund and assigned to APTI inc., Method and appartus for altering a region in the Earth's atmosphere, Ionosphere and/or Magnetosphere, claims 1, 2 and 11.

¹²⁴ The New York Times, E-Systems buys ARCO Power Technologies", June 30th, 1994.

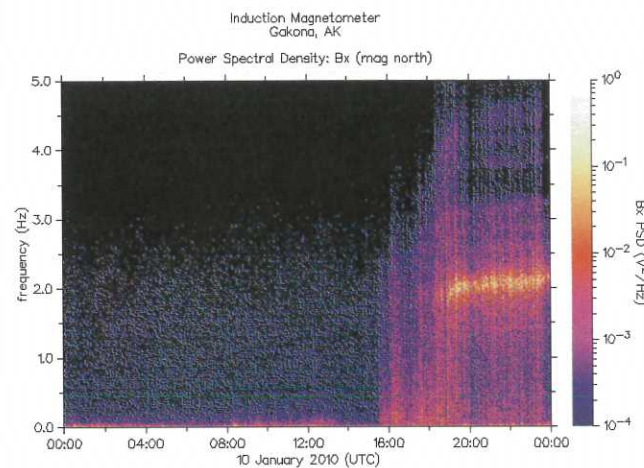
¹²⁵ The Wall Street Journal, Raytheon to acquire E-systems for \$64 a share, Page 1, April 3rd 1995.

¹²⁶ Idem as footnote 122.

technology: it is about the same as telling that the facility that engineered the first atomic bomb in 1945 was a pure scientific and peaceful project. Secondly a U.S. Air Force document that unexpectedly emerged in a public library explicitly states that it is the intention to have HAARP transmitting at 100 billions of Watts effective energy and that 'we have never seen anything like this on earth'.¹²⁷ Last but not least claim 15 of the N°4,686,605 patent describes a method of generation of electromagnetic radiation within the magnetic latitudes that encompass Alaska, exactly the same place where the HAARP facility is built. This last bit closes the loop between APTI, Raytheon and the real purpose of HAARP. The full description of patent 4,686,605 is included in appendix 11.

Of course HAARP does also open a window towards civil applications, such as replenishing of ozone holes and binding of excess CO₂ in the lower atmosphere as part of a solution for global climate change but also 'for owning the weather' and remodeling the ionosphere because the current layer is too unstable for the outcome of strategic military operations. This point of view is clearly underwritten by the Russian environmental monitor Valery Stasenko who states that HAARP is a very serious issue and that perturbations in the magnetosphere and ionosphere can really impact climate, even on a global scale.¹²⁸ Refer to appendix 12 for the full article from the Russian Pravda.

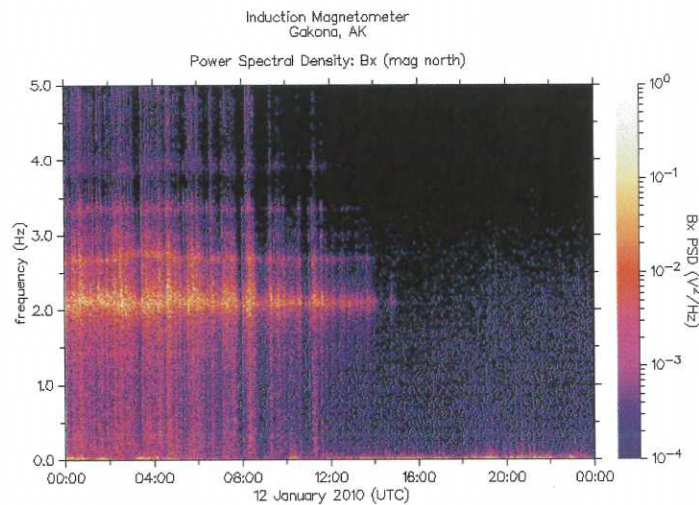
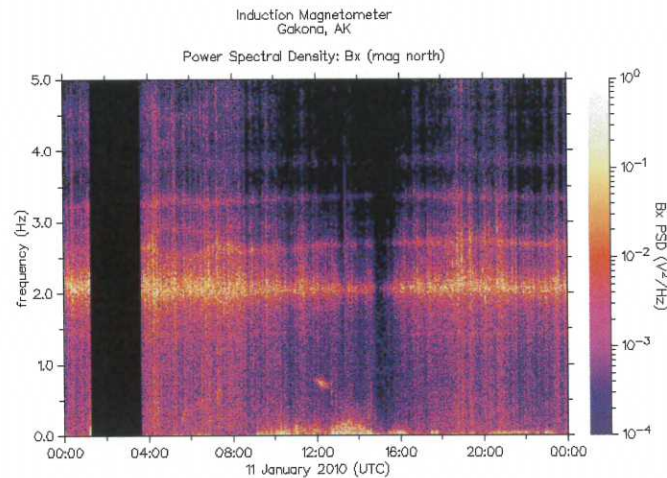
As explained at the beginning of this paragraph the 'war of the frequencies' between the Americans and the Russians continued well beyond the cold war and well into the 21st century. In 2005 the American meteorologist Scott Stevens accused Russian military specialists for the destruction of New Orleans by hurricane Katrina, although it is questionable if even high power devices as HAARP are capable to unleash such power. However, what to think about the out print of the HAARP induction magnetometer, which detects temporal variation of the geomagnetic field (flux), for the period between 10 and 12 January 2010? On Tuesday January 12th at 16.53 local time (21.53 UTC) Haiti was devastated by an Earth Quake. The official readings of the magnetometer were as follows:¹²⁹



¹²⁷ A U.S. Air Force document, *Technical Memorandum #195, presentations from the HAARP workshop on ionospheric heating diagnostics*, issued October 1991, page 185, Phillips Laboratory, Hanscom AFB.

¹²⁸ USA and Russia supposedly develop secret meteorological weapons, Pravda, English Edition, September 30th 2005.

¹²⁹ <http://maestro.haarp.alaska.edu/cgi-bin/scmag/disp-scmag.cgi>



Variations in magnetic flux were extreme during the 24-hours preceding the earthquake, acting as a precursor of what was going to happen somewhere around the globe in the next hours. It is unknown if the U.S. military were fully proficient in decoding this information at that time in order to initiate an evacuation, whether information has deliberately been held for national interests or even worse.

Whatsoever American, Russian or European official sources state it is crystal clear that weather modification at the beginning of the 21st century is not a hoax nor a 'conspiracy theory' but an iron truth. It is undeniable that the United States is on top of research in this field and is deliberately withholding vital information on weather modification and possible infringement of international laws of sovereignty, not only to allied or neutral states but also towards their own citizens.

5.2.6. the year 1996 - Weather as a force multiplier: owning the weather in 2025:

The title of this paragraph is also the title of a research paper, presented by Col Tamzy J. House and his team to the U.S. Air Force on June 17th 1996. It forms part of a group of studies labeled '2025', designed to comply with a directive from the chief of Staff of the Air Force to examine the "concepts, capabilities and technologies the United States will require to remain the dominant air and space force in future".¹³⁰ As one might think it is not an isolated publication by some eager and combative military. On the contrary there are many more projects in this area of interest, such as the research paper 'Alternate futures for 2025: security planning to avoid surprises' that even introduces the concept of a global "Pax Americana".¹³¹ When looking closer at the individual research papers the only relevant conclusion is that extensive human resources are allocated to U.S. strategic planning and all research papers are closely interconnected and fit into a global goal.

The research document 'owning the weather in 2025', combines all the previously obtained knowledge in the field of weather control and possible developments into the following operational capabilities matrix:¹³²

DEGRADE ENEMY FORCES	ENHANCE FRIENDLY FORCES
Precipitation enhancement Flooding of lines of communication Reduce recce effectiveness Decrease comfort level / morale	Precipitation avoidance Maintain / improve lines of communication Maintain visibility Maintain comfort / morale
Storm enhancement Deny operations	Storm modification Choose battle space environment
Precipitation Denial Deny fresh water / inducing drought	Fog and cloud generation Increase concealment
Space weather Disrupt Communications / radar Disable / destroy space assets	Space weather Improve communication reliability Intercept enemy transmissions Revitalize space assets
Fog and cloud removal Deny concealment Increase vulnerability to recce	Fog and cloud removal Maintain airfield operations Enhance recce effectiveness
Detect hostile weather activities	Defend against enemy capabilities

This matrix is of particular interest, because it does not only include known weather manipulation instruments such as cloud seeding through silver iodide as used in the Vietnam conflict and modeling of the ionosphere through HAARP ('space weather'), but also precipitation and storm control by means of cloud or contrail generation. This option will be discussed in the next chapter.

¹³⁰ Col T.M. House and team, Weather as a force multiplier, a research paper presented to Air Force 2025, page ii, Department of Defense School, August 1996.

¹³¹ Col J.A. Engelbrecht, Jr., PhD and team, a research paper presented to Air Force 2025, page 107, Department of Defense School, April 1996.

¹³² Refer to footnote 130, page vii.

This research document is very clear and provides even the most skeptic climatologist who denies global weather manipulation by the U.S. and its allies an insight in what to expect in the 21st century: 'Current demographic, economic and environmental trends will create global stresses that provide the impetus necessary for many countries or groups to turn weather modification ability into capability. In the United States weather modification will likely become part of national security policy with both domestic and international applications. Our government will pursue such a policy, depending on its interests, at various levels.'¹³³ The research paper does however not specify if current environmental and economic crises are deliberately triggered or created in order to achieve the goals as set in the directive of the U.S. Chief of Staff.

The authors of the research papers explicitly admit that the U.S. forces possess a high capability for fog and cloud modification as well as an average capability for space weather modification, which reflects the fact that HAARP is not operating at full capacity.¹³⁴ In that respect they have established a core competence road map in order to obtain overall artificial weather control in the year 2025. As water sources become scarcer 'in volatile parts of the world' the importance of precipitation modification for economic as well as defense purposes is likely to increase.¹³⁵ It is a fact that water will become the most valuable commodity in the next decades and control of existing water supplies automatically generates the next world power.

On top of this the research paper also includes a system development road map to weather modification in 2025 with a very precise time line. It includes the following applications:¹³⁶

- Introduction of artificial ionospheric mirrors around the year 2000 with a very sharp upraise of such operations as from 2008. One can extrapolate that the HAARP system will be fully operational after 2015.
- Use of chemicals for atmospheric seeding as from the year 2000 in order to obtain Weather Force Support in 2015 and fully controllable virtual weather by 2025. The aerospace delivery vehicles' graphic and the graph for the use of chemicals are identical, which indicates a huge increase of spraying actions. It is clear that the sum of all U.S. and NATO military assets are not sufficient to achieve the desired targets and civil aviation has to be included in order to achieve success.
- Introduction of smart clouds through nanotechnology around the year 2004 with an exponential increase of this application after 2010. The same applies to the use of 'directed energy' – a euphemism for ionospheric heating.
- A very curious application is the introduction of 'Carbon Black Dust' (CBD) as from the year 2005 – a technology that has to be developed by the DOD according to the document.

Although this unclassified research paper contains a disclaimer that it is a fictional representation of future scenarios and the viewpoints do not reflect the official policy of the U.S. Air Force, DOD or U.S. government its mere existence highlights the ambition of the military in the field of weather control. As has been adequately illustrated the technology for weather manipulation is already in place and the allocation of human resources to such projects is only possible after prior permission by the DOD, the intelligence services such as the NSA and finally senior decision makers in the U.S. government itself.

Last but not least there exists also a civil counterpart of the '2025 project', which is called the Weather Modification Association (WMA). This organization also publishes annually or more frequently the journal of weather modification. Its mission goals is to enable

¹³³ Idem as footnote 130

¹³⁴ Idem as footnote 130, page 32

¹³⁵ Idem as footnote 130, page 34

¹³⁶ Idem as footnote 130

persons, political entities and other organizations to make informed decisions about the application of weather modification technologies, to provide adequate water supplies and to reduce natural weather hazards.¹³⁷ Although designed for beneficial use the mission statement has a strong resemblance with the operational capabilities matrix on the 'enhance friendly forces' side of the military '2025' project.

An excerpt of the research paper, which includes the front page, the disclaimer, the table of contents and the different graphics, is included in appendix 13.

5.2.7. The bare necessity of geo-engineering through cloud generation for survival of the planet (1996 – 2010):

In the first decade of the 21st century a new development took place on planet Earth: climate is gradually changing and whole eco systems are endangered as a result of human activity. The former secretary-general of the United Nations, Koffi Annan, put it crystal clear in the introduction section of the impressive GEO4-document released by the IPCC in 2007: 'Imagine a world in which environmental change threatens people's health, physical security, material needs and social cohesion. This is a world beset by increasingly intense and frequent storms, and by rising sea levels. Some people experience extensive flooding, while others endure intense droughts. Species extension occurs at rates never before witnessed. Safe water is increasingly limited, hindering economic activity. Land degradation endangers the lives of millions of people. This is the world today.'¹³⁸ In a short period of time 'global warming' came on top of many political agendas.



Between 2003 and the outbreak of the credit crunch in 2008 'global warming', dwindling natural resources and the safeguard of the planet in general proved to be a very popular media topic, partly as a result of the release of the movie 'an inconvenient truth' by Al Gore – who would later become the first billionaire in cap & trade.

Although 'global warming' remains a very controversial subject after the eruption of 'climate gate' in 2009 and 'climate change' would be a much more appropriate description of this phenomenon P.M. Della-Marta and his team of Meteoswiss proved through an analysis of 54 homogenised daily maximum temperature series in 15 European countries

¹³⁷ Weather Modification Association website,
<http://weathermodification.org/organisation.htm>

¹³⁸ GEO4, United Nations Environment Program, Introduction section, 2007.

that summer heat waves have doubled since 1880, both in number of hot days as the length of the heat waves.¹³⁹ His research work confirms data obtained in earlier research papers, such as the Press Therm Climate document, prepared on presidential order after the extreme heat wave of 2003 in France that resulted in 14,947 excess casualties of whom 2200 people died in one single day - August 12th 2003.¹⁴⁰ Even when putting the effects of 'climate gate' into account one can logically assume that our quality of life is in great danger and immediate action is needed to safeguard the planet.

A lot of mitigation scenarios were developed to counter 'global warming', such as restriction of the various greenhouse gasses through regulation and the creation of the profitable cap & trade business, making pollution one of the business fields with the highest return on investment. As from 2001 more exotic scenarios were introduced in the IPCC assessment reports such as iron fertilization in oceans, chemical buffering and 'geo engineering' – large size and deliberately manipulation of Earth environment through its energy balance and reflection of additional incoming solar radiation back into space.¹⁴¹

However geo-engineering scenarios for reduction of global warming on a large scale already appear in much older documents, such as U.S. patent 5,003,186 of March 26th 1991, held by Hughes Aircraft Company. It contains 18 claims to reduce global warming through stratospheric seeding with Aluminum Oxide (claim 3 and 12), Thorium Oxide (claim 4 and 13) and refractory Welsbach material for reflection of incoming solar radiation (claims 7 and 10) with a particle size of 10 to 100 Microns (claims 6 and 16) and dispersed at altitudes between 7 to 13 kilometers (claims 5 and 14).¹⁴² Refer to appendix 14 for the full outline of patent 5,003,186.

So far government sources systematically deny the existence of operational atmospheric spraying schemes in order to cut 'global warming', but one must bear in mind that the proposed scenario by the IPCC in 2001 is identical to the claims contained in the Welsbach patent. Moreover Hughes Aircraft Company has been acquired by Raytheon in 1997, which is exact the same company that acquired E-systems and the HAARP contract.¹⁴³

The exact method of spraying of the mix that comprises one of more of the oxides of metals (claims 1 and 11) is not firmly specified in patent 5,003,186, although one possible method of delivery is briefly described in the section 'background of the invention': 'one proposed solution to the problem of global warming involves the seeding of the atmosphere with metallic particles. One technique proposed to seed the metallic particles was to add the tiny particles to the fuel of jet airlines, so that the tiny particles would be emitted from the jet engine while the airline was as it cruising altitude. While this method would increase the reflection of visible light incident from space, the metallic particles would trap the long wavelength blackbody radiation released from the earth. This could result in the net increase in global warming. It is therefore an object of the present invention to provide a method for reduction in global warming due to the greenhouse effect which permits heat to escape through the atmosphere.'¹⁴⁴

¹³⁹ Doubled length of Western European Summer Heat Waves since 1880, Della-Marta, P.M., M. R. Haylock, J. Lutherbach, and H. Wanner 2007, Journal of Geophysical research, volume 112, D15103, doi:10.1029/2007JD008510 – published August, 3rd 2007, Federal Office of Meteorology and Climatology Meteoswiss, Zürich

¹⁴⁰ Press Therm Climat, 142:25-30. Data for Dijon-Longvic Airbase, Centre Météorologique Départementale de la Côte d'Or, Dijon, 2005.

¹⁴¹ IPCC Third Assessment Report, Climate Change 2001, working group III: mitigation, section 4.7 Biological uptake in oceans and freshwater reservoirs, and geo-engineering, GRID-Arendal, 2003.

¹⁴² U.S. patent 5,003,186, Stratospheric Welsbach seeding for reduction of global warming, March 26th 1991.

¹⁴³ Raytheon Company and Hughes Electronic Defense Business (Hughes Aircraft) to merge, creating \$21 billion enterprise – combination creates a world leader in defense electronics, Raytheon press release, Raytheon Company Corporate Communication, New York, January 16th, 1997

¹⁴⁴ Idem as footnote 142, page 1.


However a recent research paper by David L. Mitchell and William Finnegan dated October 30th 2009 shines a new light on atmospheric seeding by aircraft, with two possible methods of delivery:¹⁴⁵

- The seeding material, comprised of a pressed composite of reagent Bismuth metal, Aluminum and Gilsonite (natural Hydrocarbon) could be either dissolved or suspended in the jet fuel of commercial airliners and later burned with the fuel to create seeding aerosol.
- Alternatively the mix could be directly injected into the hot engine exhaust, which should vaporize the seeding material, allowing it to condense as aerosol in the jet contrail. In this respect it is noteworthy that the Secretary of the U.S. navy is in possession of patent 3,899,144, dated August 12th 1975, claiming the invention of specific contrail generation apparatus for producing a powder contrail having maximum radiation scattering ability for a given weight material.¹⁴⁶ The seeding material in this document again consists of 85% metallic particles and 15% colloidal Silica and Silica gel in order to produce a stable contrail that has a residence period of 1 up to 2 weeks as the Mitchell and Finnegan survey claims.¹⁴⁷ Refer to appendix 15 for the full text of patent 3,899,144.

As discussed in the case study in paragraph 3.3.2 the KC135 and possible the AWACS aircraft are already equipped with pods to enable spraying operations. The question arises if the higher gas emission ratios than those in civil aviation are not part of this type of delivery mechanism for geo-engineering.

Thus basically the first method with direct injection through jet fuel is primarily designed for civil aviation, since delivery of the mixture through pods would involve direct co-operation of airline staff, management, crews, maintenance personnel and generally attract media attention. This is also the basic argument that is being used by websites that deny the existence of 'chemtrails', such as 'contrail science'.¹⁴⁸ This is very true, since the very nature of such an operation would involve intense co-operation at all levels. However, the Dutch Airport Portal website, supposed to be a platform for professional pilots, contains a lot of postings referring to spraying schemes with product 'X-432' (a Barium derivate).¹⁴⁹ It contains even excerpts from a company's operating manual and suggestions that KLM, the national Dutch carrier, is a partner in the spraying program. Some consider this portal as a hoax, but one can only wonder why so much energy is used to generate such 'rubbish' that has 'no purpose'. Furthermore the nomenclature is similar to standard operating procedures (SOP) and airplane checklists as used in commercial aviation. Refer to appendix 16 for a printout of some of the postings on this website.

As additional evidence has shown up that confirms the fact that European ministries of defense have bought great amounts of Barium or Barytine C14. The concrete documents (appendix 17) have been removed from this ~~document~~ report for security reasons and kept in a safe place.

 10/05/2010
Taking into account that Barytine C14 is used as a tracer for measurement of sea currents as part of global climate modeling¹⁵¹ it

¹⁴⁵ Michell D.L. & Finnegan W., Modification of Cirrus clouds to reduce global warming, Desert Research Institute, Reno, USA, October 30th 2009.

¹⁴⁶ U.S. patent 3,899,144, Powder Contrail Generation, August 12th 1975.

¹⁴⁷ Idem as footnote 145.

¹⁴⁸ Contrail science, chemtrail plausibility study, <http://contrailscience.com/chemtrail-plausibility-study/>

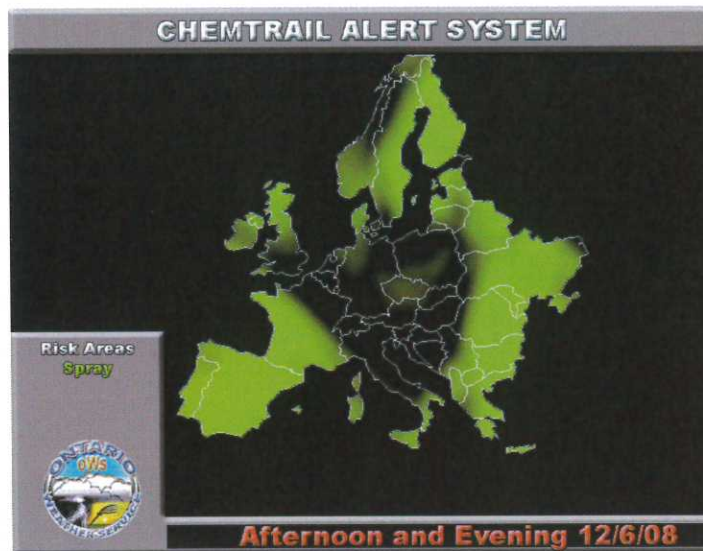
¹⁴⁹ <http://www.airwork.nl/bulletinboard/showthread.php?t=6001&page=3>

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¹⁵¹ Modelisation Climatique Globale, PNEDC, page 60, Institut National des Sciences de l'Univers, Centre National de la Recherche Scientifique. 2005.

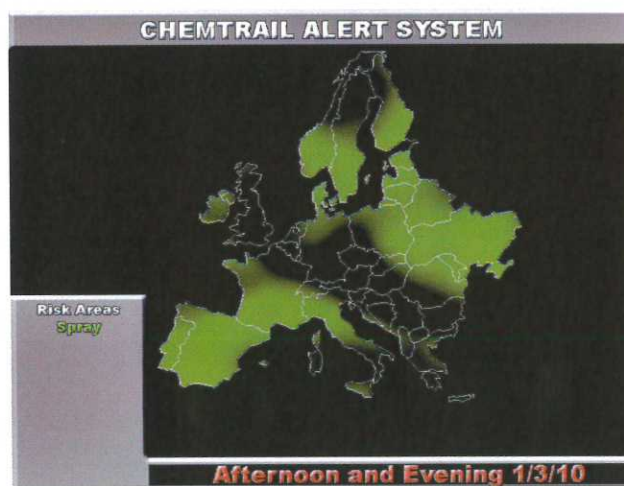
comes at no surprise why such large quantities are ordered. Refer to appendix 17 for different screenshots of the order confirmation.

On top of this comes a map with spraying schemes in Europe, which has been released by Kevin Martin, a meteorologist working for the Ontario Weather Service in 2008. Later on such maps displaying intended spraying schemes for Europe, Australia and the United States appeared on the Southern California Authority website. Currently this section of the website has been shut down since January 6th 2010 for unknown reasons.

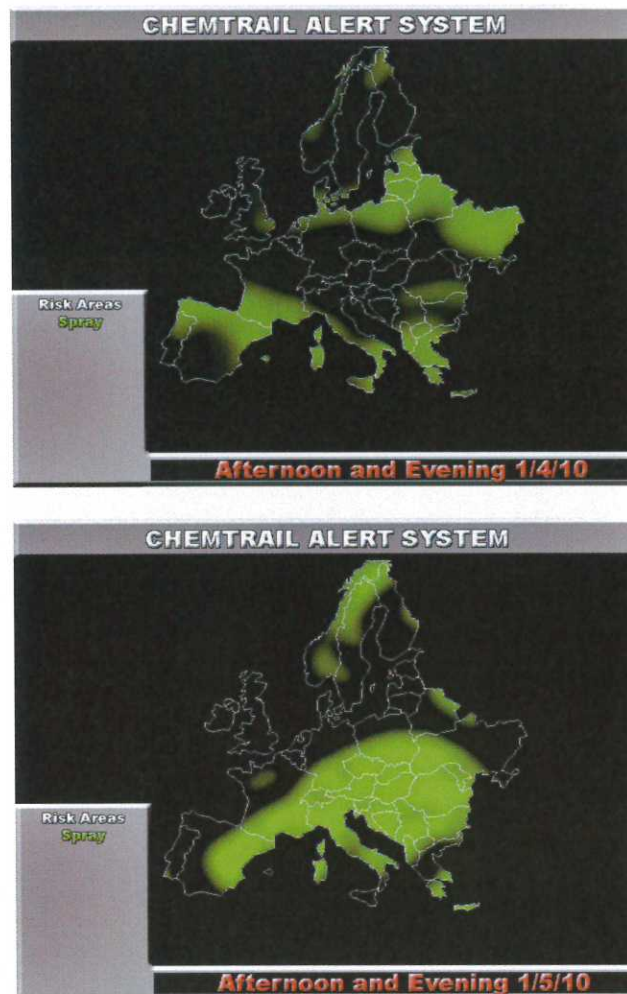


This map shows the European spraying scheme for June 6th 2008.¹⁵²

The spraying schemes seem to be organized in a logical pattern so that the whole of Europe is covered in a 3-day period:



¹⁵² By courtesy of Kevin Martin, meteorologist.



The last maps with spraying schemes on the Southern California Authority website, January 6th 2010.¹⁵³

The existence of such documents highlights the discrete but heavy involvement of governments at top level in climate control projects, which are hidden for the public for the obvious reason that the actual state of the planet is much worse than admitted through media channels. Indeed, scientists are seeking to counter with an ever louder sounding voice of climate engineering the scenario of a 3°C-increase in surface temperature, coupled with a more than doubled CO₂ output by the year 2100 – data that has been transmitted to the IPCC in 2005.¹⁵⁴ According to Mark Lynas, author of the book 'six degrees', the critical mass to induce cataclysms on planet Earth is a temperature increase of 2.5°C. Once beyond this point very volatile and unstable weather conditions on a global scale are expected, triggering unseen social unrest and martial law, chronic shortages of water and food and widespread destruction – especially in low lying areas.¹⁵⁵ This is exact the type of scenarios that various governments are trying to prevent by means of geo-engineering though production of artificial Cirrus clouds in order to keep the temperature increase within limits, thus enabling continuation of business on the planet 'as usual'.

A press statement, released on September 4th 2009 by 5 top economists including 3 Nobel laureates just before the opening of the later (deliberately) torpedoed Copenhagen top climate summit, in which climate engineering is considered as the 'most cheap and

¹⁵³ <http://www.scwxa.org>

¹⁵⁴ Idem as footnote 151, page 63.

¹⁵⁵ Lynas Mark, Zes graden, onze toekomst op een warmere planeet, pages 129-193, Uitgeverij Jan Van Arkel, Utrecht, 2008.

rapid response' to global warming, confirms this point of view.¹⁵⁶ Stratospheric aerosol insertion receives a rating 'very good' in the list of possible options. All carbon taxes, which are now at the political negotiation tables, are considered as poor and useless for the safeguard of the planet – although they are a pretty good business. The full press statement is included in appendix 18.

At the time of public release of this research paper in May 2010 our investigation team comes to the conclusion that climate control programs, controlled by the military but approved by governments are silently implemented in order to avoid the worst case scenarios they obviously do not want. The two basic instruments are temperature control through generation of artificial clouds and manipulation of the ionosphere through ionosphere heaters. Both remain basically military combat systems with the option to go into the offensive if deemed necessary. However since several ionospheric heaters are installed on various places around the globe one can assume that there is wide co-operation between governments in order to reach the climate targets by 2025: controlling the weather and thus the planet.

Last but not least one can ask why staff of the university of East Anglia has deliberately manipulated climate data for the sake of the IPCC? Accidentally or not the beginning of the falsification of data series starts at the beginning of atmospheric seeding and the operational cycle of HAARP... It is also an interesting path to investigate if 'Climate Gate' is not an accident, but a well planned maneuver to gradually prepare the global population for their future on the planet.

5.3. MODUS OPERANDI FOR CLIMATE MODELLING THROUGH MODIFICATION OF CIRRUS CLOUDS:

5.3.1. Technique of modification of Cirrus clouds:

It has been adequately illustrated that Cirrus clouds do have a significant impact on temperature and precipitation on a specific spot on Earth. If one combines this knowledge with strategic plans and scientific studies as described in previous chapter it is only a matter of time before climate modeling through modification of Cirrus clouds will be used on a large scale, whether for peaceful or military purposes.

As explained in paragraph 4.2.2 aircraft engine emissions that develop into contrails, which form man made Cirrus under specific conditions, possess a global warming potential. Although they reflect incoming sunlight they also trap the long wavelength blackbody radiation released by the Earth, thus resulting in a net increase of global warming.¹⁵⁷ Therefore it is imperative to develop a reliable technique that permits heat escape through the atmosphere, taking into account the albedo characteristics of the planet.

Both U.S patents 5,003,186 for stratospheric seeding and 3,899,144 claiming a powder contrail generator for radiation scattering, as well as the research work of David L. Mitchell and William Finnegan claim that global warming can be reduced by seeding the upper atmosphere by the following combination of metallic particles:

¹⁵⁶ Top economists recommend climate engineering, Press statement, September 4th 2009, Copenhagen Consensus Centre.

¹⁵⁷ U.S. patent 5,003,186, Stratospheric Welsbach seeding for reduction of global warming, Background of the invention, March 26th 1991.

U.S. patent 5,003,186, Stratospheric Welsbach seeding ¹⁵⁸	U.S. patent 3,899,144 Powder contrail generation ¹⁵⁹	D. Mitchell and W. Finnegan research paper: modification of Cirrus clouds ¹⁶⁰
One of more oxides of metals (not specified), particle size 10 to 100 μ Aluminum oxide Thorium oxide Welsbach material	85% TiO ₂ (e.g. Dupont R-931, median particle size 0,3 μ) 15% colloidal Silica (e.g. Cabot S-101 Silanox, median particle size 0,007 μ) Silica gel (e.g. Syloid 65, average particle size 4,5 μ)	A pressed composite mixture of Bismuth tri- iodide (BiI ₃), potassium perchlorate (KClO ₄), Aluminum (Al) and gilsonite (a natural hydrocarbon)

As explained in the previous chapter the delivery mechanism is aviation. The stratospheric Welsbach patent suggests particle seeding by dispersal from aircraft at an altitude on the order of 10 km, but this is within the troposphere where airliners routinely cruise - except at polar latitudes.¹⁶¹ D. Mitchell and W. Finnegan are even more specific about this: "with the delivery process already existing, this geo-engineering approach may be less expensive than other proposed approaches."¹⁶² This implies that the mechanism for widespread spraying of metallic particles through commercial aviation is already in place since a considerable long time. The 'other proposed approaches' may be the technology as claimed in patent 3,899,144, iron ocean fertilization of 1975 or even HAARP (1991). Refer to appendix 19 for the full text of this research paper.

Adding tiny metallic particles to aviation fuel Jet A-1 or the military JP-8 or JP8+100 have a specific purpose. They are characterized by wavelength dependent emissivity or reflectivity, in that said materials have high emissivity in the visible and infrared wavelength region and low emissivity in the near infrared region. Such metals are also referred to as Welsbach material in the 5,003,186 patent. By seeding these metals in the upper troposphere and stratosphere the particles remain suspended for some time in the air and provide by their nature a mechanism for converting the blackbody radiation in the near infrared region into radiation in the visible and infrared wavelength so that the heat energy may be reradiated out into space, thus reducing global warming due to the greenhouse effect.¹⁶³

On the question if this technique is adequate for reduction of global warming one can only state that the primary examiner of the patent bureau only delivers U.S patents if the inventors can sufficiently demonstrate that the invention effectively works. Moreover secrecy orders may be issued if they are deemed detrimental or vital to national security. In some cases the government can even confiscate a patent ('John Doe'). A list of military patents, secrecy orders and John Doe's for the period 1988-2009, as well as an example of secrecy order letter, are contained in appendix 20.

A last consideration is that the metal particles must remain suspended in the atmosphere for a considerable long time in order to be effective. Patent 5,003,186 claims that the particles may remain in suspension for up to one year.¹⁶⁴ D. Mitchell and W. Finnegan use the same logic with a much shorter residence time (1 up to 2 weeks) but far sufficient to produce 'artificial' Cirrus clouds that enable climate modeling with temperature and precipitation as instruments.

¹⁵⁸ Idem as footnote 157

¹⁵⁹ U.S. patent 3,899,144, Powder Contrail Generation, August 12th 1975.

¹⁶⁰ Michell D.L. & Finnegan W., Modification of Cirrus clouds to reduce global warming, Desert Research Institute, Reno, USA, October 30th 2009.

¹⁶¹ Idem as footnote 157.

¹⁶² Idem as footnote 160.

¹⁶³ Idem as footnote 157.

¹⁶⁴ Idem as footnote 157, page 5.

An argument that is used in almost all these publications is cost effectiveness hence atmospheric seeding through aviation seems to be the cheapest option for geo-engineering. It comes at no surprise that the number of complaints of civilians about persistent Cirrus clouds and conspiracy theories such as 'chemtrails' are on the increase. In the scope of the extensive U.S. weather modification project through history it is clear that Hughes Aircraft Company must have performed extensive testing before the patent was awarded and implementation of this technology is already finalized – cost effective, efficient on short term, with or without active co-operation of air crews, in short 'perfect'.

5.3.2. Legal aspects of climate modeling through aviation:

The question arises about the legal aspect of these spraying actions, especially in Europe since it may be an infringement of the sovereignty of the airspace of different countries. For example the Belgian airspace (FIR and UIR EBBU) consists of the national territory, part of the North Sea and Luxemburg.¹⁶⁵ Although all aircraft that emit a mixture of exhaust gases and metallic particles legally operate in controlled airspace on a prior approved flight plan the consideration has to be made if formation of man made Cirrus clouds over France that drift within Belgian airspace would present a violation of the law. However, as long the existence of the technique of cloud generation through contrails is officially denied this is not an issue.

In the United States things are quite simple since it is a vast country and spraying is considered legal according public law.¹⁶⁶ Rather intriguing is the space preservation act proposal of 2001, which was rejected on April 19th 2002 after an unfavorable executive comment received from the DOD. As a result of this seeding the atmosphere through aviation can be considered as legal in this country. The unrevised proposal included a permanent ban on 'exotic space weapons', which included ultra low frequency weapons, environmental & climate weapons and chemtrails – the only existing document where this phenomenon is explicitly mentioned.¹⁶⁷ The bill was re-written in less unusual language with omission of these 'exotic weapons' before submission to the committee. Websites that systematically deny the existence of climate manipulation programs state that congressman and sponsor Dennis Kucinich did not even write the bill or read a document written by 'UFO-enthusiasts' until too late.¹⁶⁸ However it shines some light on the professionalism that reigns in some government circles. A copy of the unrevised Space Preservation Act is included in appendix 21.

Spraying programs in Russia and the People's Republic of China are legal since they are standard procedure for major political rallies and parades.

Some interest groups however do put the legality of geo-engineering as a solution for global warming into question. One of them is the ETC-group, a technology watchdog with HQ in Canada. They warn against the rollout of geo-engineering as plan B after the failure of the Copenhagen climate summit in 2009 and point out that Bill Gates and Richard Branson are very keen to experiment with 'fast, cheap and imperfect' geo-engineering technologies – 'no matter what happens to this planet'. According to the ETC-group the very fast developing geo-engineering lobby has no mandate and no right to manage solar radiation on behalf of anyone.¹⁶⁹ That is very much true. Refer to appendix 22 for the full text of the ETC Group news release.

¹⁶⁵ Aeronautical Information Publication Belgium and Luxemburg CD-rom, AIP section ENR, issued by Belgocontrol, 2010.

¹⁶⁶ U.S. Public law 95-79, title VIII, Sec. 808, July 30th 1977.

¹⁶⁷ HR2977: Space perservation act of 2001, 107th congress 2001-2002.

¹⁶⁸ <http://contrailscience.com/kucinich-chemtrails-and-hr-2977/>

¹⁶⁹ Top-down planet hackers call for bottom-up governance, ETC Group news release, February 11th, 2010.

5.3.3. Safety and health aspects of climate modeling through aviation:

According to D. Mitchell and W. Finnegan seeding the atmosphere with aerosols containing oxides of metals as part of a geo-engineering project have some drawbacks:¹⁷⁰

- Increase of the rates of strategic ozone destruction.
- Higher costs of injecting sulfur compounds into the atmosphere.
- Decrease in solar radiation altering the hydrological cycle with more frequent droughts.
- Change in sky color from blue to white.
- Less solar power.

Change in precipitation patterns have already been covered in paragraph 4.3, confirming that climate modeling projects through aviation should be approached in a much more cautious way. Ozone depletion is a fact, which could effectively be countered if HAARP was to be used for more peaceful purposes. The change of color is probably the more frequent appearance of a milky sky, which is a totally unacceptable prospect if geo-engineering is to be used on a global scale.

According to official government sources, such as the U.S. Agency for Toxic Substances & Disease Registry (ATSDR), materials such as Aluminum that is used in the aerosol mix are always present in virtually all food, air, water and soil and therefore exposure is usually not harmful and there are no known carcinogenic effects.¹⁷¹ The same logic applies when researching the effects of Barium.¹⁷² The questions arises how extremely high concentrations of Aluminum and in a lesser extend Barium, measured in the center of Paris (for example PTE = Paris Tour Eiffel) in November 2008 and included in appendix 23 should be interpreted as there are no fixed standards to determine an alarm level for this type of contamination.

However there is ample evidence that aircraft engine emissions – even without the addition of an aerosol mix - pose a threat to public health, although its effects are minimized by the industry as a result of corporate profit, conflicts on interests and ineffective control by government and regulating authorities.¹⁷³ The aerotoxic syndrom, which has first been recognized in 1999, affects an increasing number of flight crews and cabin personnel. It is a term that encompasses the following symptoms observed by crews who have been exposed to hydraulic fluid, engine oils or mists as a result of the circulation of bleed air in the pressurized cabin:¹⁷⁴

- Symptoms of dysfunction in neurological function, immediately after intense exposure, including loss of positional awareness, vertigo and loss of consciousness. If these symptoms occur to a pilot there is a significant aviation safety problem.
- Symptoms of skin, eyes, nose and respiratory irritation immediately after exposure. Further exposures exacerbate the symptoms, often leading to other respiratory and cardiovascular effects.
- Symptoms of gastrointestinal discomfort immediately after exposure. While these recede with cessation of exposure there is a suggestion that nausea and diarrhea can persist.

¹⁷⁰ Michell D.L. & Finnegan W., Modification of Cirrus clouds to reduce global warming, Desert Research Institute, Reno, USA, October 30th 2009.

¹⁷¹ ToxFAQ for Aluminum, Agency for Toxic Substances & Disease Registry, September 2008.

¹⁷² ToxFAQ for Barium, Agency for Toxic Substances & Disease Registry, August 2007.

¹⁷³ www.aerotoxic.org/index.php/about-aerotoxic-syndrome, Is the aviation industry adressing the issue.

¹⁷⁴ Winder C., Fonteyn P. And Balouet J-C, Aerotoxic syndrome, a descriptive epidemiological survey of aircrew exposed to in-cabin contaminants., J Occup Health Safety – Australia & New Zealand 2002, 18(4) 321-338.

- Some symptoms of impairment of neurophysiologic function immediately after exposure, such as headache, dizziness, disorientation and intoxication. These symptoms become more debilitating after time with loss of cognitive function and memory problems emerging.
- General symptoms of exhaustion to chronic fatigue, with suppression of the immunity system with food intolerance, allergies and chemical sensitivities (MCS or Multiple Chemical Sensitivity) some time after exposure.

The aircrews in this survey had incidences of symptoms at much higher rates than population backgrounds, suggesting that they were unhealthier than the general population. However, since pilots and cabin crew undergo routine medical checks the level of fitness and health in such individuals should be better than population norms.¹⁷⁵ Various governments and regulating authorities have commissioned research on this subject, but so far have not been 'able to conclusively prove a link between contaminated cabin air and chronic health problems'.¹⁷⁶ The full text of this research paper is included in appendix 24.

As the aerotoxic syndrome is a joint result of leakage of hydraulic fuels and engine oils there is other evidence that jet fuel itself is detrimental to health. Extensive animal testing on monkeys, rats, mice and dogs by the U.S. air force in 1993 – exposing them to then now obsolete JP-4 and JP-7 jet fuels showed decreased liver weights, red blood cell fragility, depressed activity, infertility and an increase in inflammations that sometimes resulted in cancer and subsequent death.¹⁷⁷ Refer to appendix 25 for an excerpt of this survey. There are no research papers released on the health effects of JP-8 or JP-8+100 military jet fuels but one can assume they are identical to those described in the 1993 paper.

These research papers illustrate that aircraft engine emissions, whether combined with aerosols or not, are a concern for public health and action should be taken by the scientific society to perform additional research on the effects of nano sized particles on humans and in general our eco-systems.

¹⁷⁵ Idem as footnote 174, page 336.

¹⁷⁶ Idem as footnote 174.

¹⁷⁷ TP76-c2 Fuels on animals, Jet fuels JP-4 and JP-7, Health effects, 1993.

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10/05/10

PV

6. CONCLUSIONS AND RECOMMENDATIONS

The secretary of defense may conduct tests and experiments involving the use of chemical and biological agents on civilian populations.

Public law of the United States, Law 95-79, title VIII, Sec.808, July 30th 1977.

6.1. CONCLUSIONS AND RECOMMENDATIONS:

When combining the knowledge of the formation of contrails, the effects of Cirrus clouds on climate, the historical records of weather manipulation programs, the scientific studies on geo-engineering through modification of Cirrus clouds, the available and patented technology coupled with reactions of pilots on the internet one can only come to the following conclusions:

1. Manipulation of climate through modification of Cirrus clouds is neither a hoax nor a conspiracy theory, but currently the best option in geo-engineering considered by decision makers to counter global warming. The impact of production of artificial Cirrus clouds on temperature and precipitation patterns is supported by adequate hard scientific evidence.
2. The ambition of the United States is to control the weather by the year 2025, both for civil and military purposes (offensive and defensive strategies). This research paper contains a proven track record to support that statement.
3. The technology to organize spraying actions on a global scale is widely available. Both civil and military aviation is used for that purpose. The mix, containing oxides of metals and chemical components, can either be dispersed through special designed pods or directly incorporated into the jet fuel. This research paper is well documented in this respect.
4. Since the patents are owned by the main defense contractor for the U.S. armed forces (Raytheon) or the U.S. department of defense itself and given the history record it is obvious that current climate manipulation programs are organized and directed by the United States government.
5. The spraying actions in Europe are only possible with prior approval and intense co-ordination on top government level and industry on executive level. The general public is intentionally kept unaware of the existence of such projects.
6. Although the spraying actions may be considered legal these actions may have a potential detrimental effect on health. There is sufficient scientific evidence available in this research paper to support this thesis.

It is not the purpose of this research paper to give a moral appreciation of these actions. Nevertheless the investigation team unanimously comes to the following recommendations for the future:

- a) Artificial Cirrus clouds should be classified as a separate cloud genus by the WMO. Additional scientific research with the effects on nature and public health on this subject should be considered. Results –whatever the outcome- should be made public.
- b) It is unacceptable that the Awacs aircraft fleet under NATO operates under a Luxemburg civil registration without complying with civil aviation regulations. This is a flagrant violation of the law and this should be corrected in the near future. Given the very unfavorable engine emission ratios of this aircraft retrofitting of these engines should be considered as soon as practical.
- c) When considering a legal case it is better to sue an industrial group, such as Raytheon, rather than a government agency. It is clear for us that the responsibility of Raytheon in this respect is far reaching with the creation of a monopoly in climate modeling and weather as a geo-engineering or military instrument. If possible an international ban should be placed on such weapons.
- d) Although the existence of weather modification projects have been illustrated in an adequate way in this research paper it is now the duty of a serious politician on any level to make enquiries to the government for public release of these spraying schemes through aviation. It is mandatory that such statement should include the reason why such operations are conducted. It is not an option to hide behind the motive of national security.

The investigation group has performed the research meticulously with maximum integrity and we hope that our intervention will reveal the truth about climate manipulation, exposing the real reasons to the general public, which has the basic right to know. We also hope this research paper will contribute towards a more peaceful world. Last but not least we thank the Belfort group for its courage and wish them maximum success in public divulgence of this document.

In the name of our planet, Agent Orange

On behalf of the Belfort-group and of humanity as a whole
 I congratulate this team of 'inside' experts for doing an
 outstanding job in producing this scientific evidence based
 and very well documented report.
 Although for security reasons I do not know their identity
 I thank these brave persons from the bottom of my human being.
 I am sure that their engagement was driven by their conscience,
 their knowledge, their desire for the truth, their sense of
 responsibility for Mother Earth and all her creatures
 and above all their love to love, which is definitely
 the only engine of life itself.
 May this document contribute to the wake-up of mankind
 and the transformation of our species to become again
 what we were always meant to be: god-like, spiritual beings...

Ring the bells, that still can ring
 Forget your perfect offering
 There is a crack in everything
 That's how the light gets in
 Leonard Cohen, The Anthem.

May God help us all...

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