

# **“DIMINISHED SOLAR CHARGE CAPACITIES DUE TO PERSISTENT JET CONTRAILS”**

**By Dane Wigington, Shasta County, California - August 11, 2007  
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**E-Mail: Dane Wigington [danew@frontier.com](mailto:danew@frontier.com)**

I relocated to Northern California when the forest that surrounded me in the Hualipi Mountains of Arizona, began to die. I started doing research on climate with the 1995, manual on climate change from the IPCC. Shortly thereafter I decided to move to Northern California based on the data in that manual.

After moving to Shasta County in 2001, and constructing our large “off grid” home on the east side of Lake Shasta, I began to take notice of the occasional long and very lingering trails left behind aircraft. This would occur only on a periodic basis and there seemed no recognizable difference in atmospheric conditions or humidity. Days of clear blue skies, with virtually no sign whatsoever of aircraft, would be followed by days of parallel stripes from horizon to horizon that would gradually spread out during the span of hours till the whole sky became hazy. This is a condition that has a substantial negative effect on the function of a solar voltaic panel’s ability to produce power.

I have a background in solar power having worked on the construction one of the first commercial solar electric facilities in the United States in the early 1980s, located in Dagget, California. I have also had extensive education in the electrical industry. I hold a journeyman’s card in the International Brotherhood of Electrical Workers Union and have held contractor’s licenses in California and Arizona. My “off grid” residence in Shasta County which is located on 2000 acres of wilderness, on the east side of Lake Shasta, was the cover article on the nation’s largest renewable energy magazine (Home Power Magazine Dec 03/Jan 04).

During our first two winters here, there was considerable difficulty maintaining adequate battery charges due to the lengthy storms. This was further worsened by the long aircraft trails that would cover the skies during the occasional breaks in weather fronts. These jet trails alone would at times drop my charging potential to less than half.

The winter drop in power production due to these jet trails is more substantial as the thickness of the trails seem to be enhanced due to the lower winter temperatures and higher humidity produced as the result of emissions of water vapor from jet engines. Even so, there were occasional days with exactly the same conditions mentioned above that had no trails whatsoever. Only the sometimes seen tiny short-lived trail that quickly disappeared. The sharply contrasting observations made clear to me that there was a profound difference in aircraft activities from one day to the next.

I began to research the issue and was shocked to discover the high number of U.S. Patents that described exactly the sort of solar obscuration that was blocking so much of my systems ability to produce solar power. .

I began to take notice of surprising accumulations of dust on my panels which also diminishes charging potential. Knowing the ingredients mentioned in the patents, I decided to take a few dust samples to a lab in our area that performs all of California’s testing in the region. This was to be the beginning of a chain of alarming data and tests. The dust was full of aluminum and barium.

I live on the top of the highest forested mountaintop in the immediate area. There are no mines or potential areas of contamination within many miles of my location. There was only one plausible origin for this dust. Acting on this conclusion, I tested the final snowstorm of the 2007, season as well as the final four rainstorms, for aluminum and barium content in the water.

All tests were showed significant quantities of these metals. I checked with a hydro-geologist I know about these chemicals and he assured me that unless I lived next to an Alcoa Aluminum factory, there is now way I should have these metals show up in rainwater testing in any quantity.

I tested my rubber-lined pond for an accumulation for the two years it has been installed. The reading was off the scale at 375,000 ug/l. This pond has only received water from rain, and a well that was tested for

aluminum, with none detected. The testing has continued and now about two dozen tests, taken by many different residents throughout Shasta County, confirm my results and continue to show rising levels of aluminum and barium.

My difficulties getting adequate power in the winter months continued. As far as the summer months, there were difficulties there also. Jet trails that turned into man-made clouds and haze continued in the other seasons, especially spring and fall. Their appearance was less thick but more complete in its coverage of the skies above. My loss of solar uptake was in the 20 to 30% range. Still more than enough to severely hamper my potential to pump adequate water from my well for dryer season needs.

The bottom line is that I have been unable, at many times during the year, to produce adequate solar output due to the jet trails alone. There is no consistency to these periods of persistent contrails whatsoever nor is there any logical explanation, (other than patent #5,003,186, and other patents consistent in nature). I can find no other explanations for these inconsistencies based on weather conditions or humidity.

Further, on any given day that the jet trails occur, and they manage to cover part or all of the sky to some degree, it will be entirely clear by the later evening hours. Never a single trail is visible over our area by 10:00 or 11:00 P.M., no matter how many dozens of them there were visible during the daylight hours when solar clarity is so needed.

The past winter my solar output has gone from just over 30 kW on an otherwise clear winter day, to an output as low as 18 or 19 kw. My summer output has gone from just over 40 kW on average, to averages in the low 30 kw range. Again, both these readings are on days when the only obstruction in the sky is the expanding and lingering jet trails from a greatly increased number of aircraft on these days.

There are random days and periods during all seasons when there are no trails at all and solar uptake is normal. These clear periods seem to be fewer now than only two years ago, and farther between in time. I have had to install a hydroelectric unit in three wind turbans to make up for the lost solar power that seems to be continuing to wane due to increases in jet induced cloud cover and haze.

The lack of photosynthesis and increased aluminum in our soils may be two prominent reasons for sharp declines in tree health in Shasta County. I am currently cooperating with the California U.S.D.A. and CDF in their ongoing study of the rapidly decaying health of fir trees in our area. They are also giving serious consideration to the heavy metal component of this equation.

I can only hope that some higher level of investigation is commenced that will expose the true nature of this apparent program on solar power production, human, and tree health.

**Update: December 14, 2008 by Dane Wigington:**

\*Heavy metal content has continued to rise beyond belief over the last two years. Aluminum content in water and snow testing has been increasing with the most recent rain test, taken on November 5, 2008, being 3,450 PPB (parts per billion), over the allowable 600 PPB CA standards for drinking water.

\*Amphibians in the Shasta County area have all but disappeared in the last two years.

\*All organic gardeners that I have contact with have complained about their stunted crops.

\*Several government and state biologists have noted that fish stocks are plummeting. Water and soil pH are inexplicably changing.

\*Solar production: The obscuration from overhead aircraft producing persistent jet contrails and man-made clouds is now so contact in Shasta County that there is only one or two days a month of normal solar panel energy production.

\*The daily air quality particulate readings in the local newspaper have been running about times the historic normal level.

**The question is: "Does anyone care?"**

**D.W.**