

RECEIVED-DOCKETING DIV

THOMAS HALBEDEL

2008 MAR -6 PM 3:47

From: "THOMAS HALBEDEL" [REDACTED]
 To: "Thomas Halbedel" [REDACTED]
 Sent: Friday, February 29, 2008 11:26 AM
 Subject: SITING BOARD EMAIL

PUCO

To: The Honorable Alan R. Schriber, Chairman
Ohio Power Siting Board
180 E. Broad Street
Columbus, Ohio 43215-3793

Reference Case #06-1358-EL-BGN

GOAL:

My intent is to take you on a journey, so that when we are done, you will have clear understanding, of how the proposed AMP-OH coal-fired power plant in Meigs County Ohio, without the rigorous pollution safeguards of Carbon capture and Carbon sequestration, will have impact of epic proportions.

PREMISE:

If we fail to reduce carbon emissions from the Earth's atmosphere, and plunder Earth's natural resources to beyond the point of recognition, "then it will follow as night follows day", that generations to come will be finite in number.

CONCLUSION:

The AMP-OH plant must be denied.

Cleveland's dangerous air quality is well documented for the year 2007 in reports by the Ohio Environmental Council and the American Lung Association's State of the Air Report.

When statistics from the State of the Air Report are collectively tabulated for Cuyahoga County residents, to include the following numbers of individuals diagnosed with:

pediatric asthma 28,736;
 adult asthma 79,719
 chronic bronchitis 42,610 and
 emphysema 20,146

that number constitutes 171, 211 individuals; nearly 13% of Cuyahoga County's total population.

Furthermore the web site:

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www.earthday.net/UER/report/oh_cleveland.html, indicates "about 22.5% of Cleveland's population is more susceptible to environmental degradation".

Additionally, WEB MD ranks Cleveland in sixth place for soot for year-round particle pollution.

OHIO IS #1 IN TOXIC AIR EMISSIONS, according to the Toxic Release Inventory of 2005, as reported in 2007.

On Friday January 11th 2008, Paul Kostyu, Repository Columbus Bureau Chief wrote: "The Ohio EPA will recommend to the U.S. EPA, that 21 Ohio counties be designated for their failure to comply with a new fine particulate standard".

These miniscule particles, invisible to the naked eye, circumvent the body's normal protective mechanisms; embed themselves in mucous membranes, then eventually erode and destroy the integrity of our health. What is the primary source of these particles? 'The emissions from power plants seem to be the biggest contributor in the state', says Dan Aleman, Administrator of Canton's Department of Air Pollution Control Division.

Exposure severity to power plant emissions, is underscored by Dr. John Balbus, head of the Environmental Defense Health Program: "Power plant smokestacks are public health enemy number one" causing "tens of thousands of premature deaths annually, heart attacks, strokes and asthma attacks".

I further reference the testimonial statement of the Ohio Environmental Council submitted to OH EPA on January 22, 2008. It literally details hundreds of thousands of Ohio residents (see below) living in a designated 'diesel hot spot'. They live in harm's way due to their proximity and ongoing exposure to these dangerous and insidious particles. "Diesel hot spots" are defined as "areas that are within one-quarter mile of a roadway with PM emission levels of at least 675 grams per mile per day (g/mi/day)".

- **Cleveland: 38% (nearly 183,000 people) within a diesel hot spot
- **Columbus: 28% (nearly 200,000 people) within a diesel hot spot
- **Cincinnati: 45% (nearly 150,000 people) within a diesel hot spot
- **Akron: 32.3% (nearly 70,037 people) within a diesel hot spot

****Canton: 26.5% (nearly 22,000 people) within a diesel hot spot**

These numbers total: 625,037 Ohio citizens living in harms way but this number is actually underestimated. For instance, my city of Rocky River did not make the list, though clearly Rocky River is dangerously subjected to pm2.5 for a number of reasons. The reason Rocky River was not identified, is that our residential numbers were not large enough to be included in the top twelve communities. Consequently, there are even more Ohio citizens, that exceed the OEC's numbers, that total 625,037 citizens who are being exposed to these toxic emissions with great regularity.

The OEC states: "According to a report by the Clean Air Task Force, fine particles from diesel engines contribute to 769 preventable deaths, 14,464 asthma attacks and nearly 84,000 lost work days in Ohio annually. **THIS MAKES OHIO 8TH FOR HEALTH IMPACTS FROM DIESEL FINE PARTICLES.**

But the OEC's testimony also references power plant emissions: "Another major source of particulate matter comes from Ohio's power plants. Our power plants have the dubious distinction of ranking near the top in pollutants spewed from these smokestacks. According to U.S. EPA data, fine particles from coal-fired power plants contribute to an estimated 1,743 early deaths, 212 lung cancer deaths, and 2,873 non-fatal heart attacks in Ohio annually.

"Insurers take action on global warming" a defining article from The Cleveland *PlainDealer* 9/29/07 speaks to the insurance industry's concern for their survive future insured catastrophes because of Carbon emissions and the they create on Earth's climate.

***Consider: "Seven of the 10 most expensive catastrophes for the U.S. property and casualty industry happened between 2001 and 2005."**

*** Consider: Peter Levene, Chairman of Lloyds of London, a once self-proclaimed skeptic of global warming, now believes that carbon emissions stemming from human activity are warming Earth and creating extreme weather.**

*** Consider: "Lloyds predicts that the United States will be hit by a hurricane causing \$100 billion dollars worth of damage, more than**

double that of Katrina.

Industry analysts estimate that such an event would bankrupt as many as 40 insurers.

"THE ASSOCIATION OF BRITISH INSURERS HAS CALLED ON GOVERNMENTS TO 'STEM OMINOUS WEATHER-RELATED TRENDS' BY CUTTING CARBON EMISSIONS".

Now consider that **OHIO IS THE NATION'S FOURTH LARGEST EMITTER OF CARBON DIOXIDE**, and that rank is achieved without the addition of still another coal-fired power plant.

MAN'S CARBON EMISSIONS YIELD GLOBAL WARMING; YIELD CLIMATE CHANGE; YIELD EARTH'S REACTIVITY; THE LIKES OF WHICH WE HAVE NOT KNOWN IN OUR LIFETIMES.

The urgency to move away from coal is also found in an article appearing in the *Cleveland Plain Dealer* on December 12th, 2007: "*Arctic melting accelerated over summer*". It indicated that NASA's satellite data revealed that: "Greenland's ice sheet melted nearly 19 billion tons more than the previous high mark. Jay Zwally, NASA Climate Scientist states: 'At this rate, the Arctic Ocean could be nearly ice-free at the end of summer by 2012'.

Zwally, who had hauled coal as a teenager, warns: 'The Arctic is often cited as the canary in the coal mine for climate warming. Now as a sign of climate warming, the canary has died. It is time to start getting out of the coal mines'.

Tim Flannery, author of *The Weather Makers* that was published in 2005, indicated that as his book was going to press, the journal "*Science*" published scientific proof that global warming exists. Dr. James Hansen and his colleagues had conducted a study confirming "Earth is now absorbing more energy, an extra 0.85 watts per square yard, than it's radiating to space". Even as early as 2005, the NASA scientists concluded: "Over years and decades it (the heat) accumulates and if left long enough it will mean the difference between survival and destruction for our species".

In recent months I communicated to Dr. Hansen, Cleveland's intention to construct an AMP-OH coal-fired power plant. This internationally

renown NASA Climate Scientist, and Director of NASA's Goddard Institute for Space Studies, referred me to the "Iowa Coal Case" 11/05/07, found on his web site: www.columbia.edu/jeh1 .

Dr. Hansen's testimony overviews horrific global ramifications that just one coal-fired power plant, operating with unbridled (operating without Carbon capture and Carbon sequestration technology,) Carbon emissions for a sum total of 50 years, could inflict on planet Earth. Dr. Hansen sites predictions of cataclysm in epic proportions; unlike man has ever seen before.

Dr. Hansen strikes this stark analogy: "If we cannot stop the building of more coal-fired power plants, those coal trains will be death trains-no less gruesome than if they were boxcars headed to crematoria, loaded with uncountable irreplaceable species". Dr. Hansen forewarns: "If we destroy a large portion of the species of creation, those that have existed on earth in recent Millennia, the earth will be a far more desolate planet for as many generations of humanity as we can imagine".

Dr. Hansen continues: "Saving the planet and creation surely requires phase-out of coal use except where the CO2 is captured and sequestered. Because of the danger from one Iowa Coal Plant, with emissions of 5,900,000 tons of CO2 per year, and 297,000,000 million tons over 50 years, could be important as 'the straw on the camel's back'".

I summarize a portion of Dr. Hansen's testimony, that predicts far reaching catastrophic conditions, to occur around the world, should the Iowa plant become operational for 50 years. When placed within the greater context of 'tipping points', the Iowa plant's future emissions, could force the 'tipping point' to be achieved, as it pertains to the West Antactic ice sheet. Dr. Hansen predicts unprecedented numbers of climate refugees, into the 'hundreds of millions'. I would suggest a personal review of the first 10 pages of the Iowa Coal Case of November 5th 2007 found on Hansen's web site. These mammoth numbers are predicated on the collapse of the West Antarctica ice sheet. The potential for this cataclysmic assault on life, is due to the extraordinary numbers of people living less than 20 feet above sea level around the globe. The massive flooding from glacial melt-down, would not only force evacuations, but it would include the loss of natural

resources to include food, fresh drinking water access, *etc., etc.*

The United States is not immune from this predicted massive flooding, due to the vulnerability of a number of states that due to their relation to sea level;
such as Florida, Louisiana and Texas.

Should the State of Ohio construct the AMP-OH facility, predicted to produce 7.3 million tons of Carbon annually for a 50 year period; to emit a total of 365 million tons of Carbon into the Earth's atmosphere for the duration of the contract; as this quantity EXCEEDS those CO2 emissions originally predicted for the Iowa plant, for which Dr. Hansen has said could be the tipping point for the entire melt down of the West Antarctic ice sheet, then Ohio would potentially bear the enormous responsibility of creating imminent danger, at some future point in time, by adversely undermining the sustainability of our planet; its peoples and other living inhabitants.

Dr. James Hansen, perhaps the world's most pre-eminent Climate Scientist is emphatic, Carbon capture and sequestration methodologies must be incorporated into emissions controls in any future coal-fired power plants for the ultimate protection of all living species.

Therefore, until there exists subsequent technological advancement, with proven methodology, designed for the successful capture and sequestration of Carbon emissions, I can only conclude, based on my research,

THE AMP-OH COAL-FIRED POWER PLANT MUST BE DENIED. Not only due to the existent hazardous pollution that the State of Ohio emits to which our citizens are exposed; but to protect and preserve all living inhabitants on planet Earth, according to Dr. James Hansen.

**WHETHER YOU CHOOSE TO MAKE AN
IRRESPONSIBLE DECISION; OR A RESPONSIBLE DECISION; YOU
ARE RESPONSIBLE.**

Respectfully submitted,

Jane M. Halbedel, Private Citizen



Initial Target CO₂: 350 ppm

Technically Feasible

(but not if business-as-usual continues)

Quick Coal Phase-Out Critical

(long lifetime of atmospheric CO₂)

(must halt construction of any new coal plants that do not capture & store CO₂)

DR. JAMES HANSEN SAYS: MORATORIUM ON NEW

COAL PLANTS WITH NO CO₂ CAPTURE & CO₂ SEQUESTRATION

GLOBAL WARMING*THE PERFECT STORM

DR. JAMES HANSEN

29 JANUARY 2008

HEALTH IMPLICATIONS OF CLIMATE CHANGE

ROYAL COLLEGE OF PHYSICIANS

LONDON, UNITED KINGDOM

THOMAS HALBEDEL

From: "THOMAS HALBEDEL" [REDACTED]
To: "THOMAS HALBEDEL" [REDACTED]
Sent: Monday, February 25, 2008 3:39 PM
Subject: Re: JIM HANSEN WORD FOR WORD

On 2/17/08 Dr. James Hansen, THE WORLD'S RENOWN NASA CLIMATE SCIENTIST, e-mails Jane Halbedel: "Overall, I fear that your statement, without the step-by-step explanation of how we come to the conclusion of the large impact of even one coal plant, may not seem believable".

Due to Hansen's feedback and the extraordinary global ramifications the new AMP-OH plant in Meigs county could have on the entire planet, I am forwarding to you those pages from Hansen's Iowa Coal Case. These will help you assess for yourself, the inherent dangers, given that the Carbon emissions from the AMP-OHIO plant, are projected to EXCEED those CO2 emissions predicted for the Iowa plant by 68 million tons. The Iowa plant, with significant less cumulative emissions to the air for 50 years, Hansen predicted could cause great global disasters. One can only fathom what this AMP-OH plant could eventually inflict on planet Earth.

I trust that you, each Councilman, will exercise your due diligence before committing Cleveland to this contract that would ultimately place our Earth and all its inhabitants in great peril.

But why focus on a coal plant in Iowa? Coal-fired power plants are being built at a much faster rate in China?

A. The Iowa power plant can make an important difference because of tipping points in the climate

system, tipping points in life systems, and tipping points in social behavior. A tipping point occurs in a system with positive feedbacks. When forcing toward a change, and change itself,

become large enough, positive feedbacks can cause a sudden acceleration of change with very

little, if any, additional forcing.

Arctic sea ice is an example of a tipping point in the climate system. As the warming global ocean transports more heat into the Arctic, sea ice cover recedes and the darker open ocean surface absorbs more sunlight. The ocean stores the added heat, winter sea ice is

thinner, and thus increased melting can occur in following summers, even though year-to-year variations in sea ice area will occur with fluctuations of weather patterns and ocean heat transport. Arctic sea ice loss can pass a tipping point and proceed rapidly. Indeed, the Arctic sea ice tipping point has been reached. However, the feedbacks driving further change are not 'runaway' feedbacks that proceed to loss of all sea ice without continued forcing. Furthermore, sea ice loss is reversible. If human-made forcing of the climate system is reduced, such that the planetary energy imbalance becomes negative, positive feedbacks will work in the opposite sense and sea ice can increase rapidly, just as sea ice decreased rapidly when the planetary energy imbalance was positive. Planetary energy imbalance can be discussed quantitatively later, including all of the factors that contribute to it. However, it is worth noting here that the single most important action needed to decrease the present large planetary imbalance driving climate change is curtailment of CO2 emissions from coal burning. Unless emissions from coal burning are reduced, actions to reduce other climate forcings cannot stabilize climate. The most threatening tipping point in the climate system is the potential instability of large ice sheets, especially West Antarctica and Greenland. If disintegration of these ice sheets passes their tipping points, dynamical collapse of the West Antarctic ice sheet and part of the Greenland ice sheet could proceed out of our control. The ice sheet tipping point is especially dangerous because West Antarctica alone contains enough water to cause about 20 feet (6 meters) of sea level rise. Hundreds of millions of people live less than 20 feet above sea level. Thus the number of people affected would be 1000 times greater than in the New Orleans Katrina disaster. Although Iowa would not be directly affected by sea level rise, repercussions would be worldwide. Ice sheet tipping points and disintegration necessarily unfold more slowly than tipping points for sea ice, on time scales of decades to centuries, because of the greater inertia of thick ice sheets. But that inertia is not our friend, as it also makes ice sheet disintegration more difficult to halt once it gets rolling. Moreover, unlike sea ice cover, ice sheet disintegration is practically irreversible. Nature requires thousands of years to rebuild an ice sheet. Even a single millennium, about 30 generations for humans, is beyond the time scale of interest or comprehension to most people. Because of the danger of passing the ice sheet tipping point, even the emissions from one Iowa coal plant, with emissions of 5,900,000 tons of CO2 per year and 297,000,000 over 50 years could be important as "the straw on the camel's back". The Iowa power plant also contributes to tipping points in life systems and human behavior.

Q. How can Iowa contribute to tipping points in life systems and human behavior?

There are millions of species of plants and animals on Earth. These species depend upon each other in a tangled web of interactions that humans are only beginning to fathom. Each species lives, and can survive, only within a specific climatic zone. When climate changes, species migrate in an attempt to stay within their climatic niche. However, large rapid climate change can drive most of the species on the planet to extinction. Geologic records indicate that mass extinctions, with loss of more than half of existing species, occurred several times in the Earth's history. New species developed, but that process required hundreds of thousands, even millions, of years. If we destroy a large portion of the species of creation, those that have existed on Earth

in recent millennia, the Earth will be a far more desolate planet for as many generations of humanity as we can imagine.

Today, as global temperature is increasing at a rate of about 0.2°C (0.36°F) per decade, isotherms (a line of a given average temperature) are moving poleward at a rate of about 50-60

km (35 miles) per decade (Hansen et al. 2006). Some species are moving, but many can move

only slowly, pathways may be blocked as humans have taken over much of the planet, and species must deal with other stresses that humans are causing. If the rate of warming continues

to accelerate, the cumulative effect this century may result in the loss of a majority of existing species.

The biologist E.O. Wilson (2006) explains that the 21st century is a "bottleneck" for species, because of extreme stresses they will experience, most of all because of climate change.

He foresees a brighter future beyond the fossil fuel era, beyond the human population peak that

will occur if developing countries follow the path of developed countries and China to lower fertility rates. Air and water can be clean and we can learn to live with other species of creation

in a sustainable way, using renewable energy. The question is: how many species will survive the pressures of the 21st century bottleneck? Interdependencies among species, some less mobile

than others, can lead to collapse of ecosystems and rapid nonlinear loss of species, if climate change continues to increase.

Coal will determine whether we continue to increase climate change or slow the human impact. Increased fossil fuel CO₂ in the air today, compared to the pre-industrial atmosphere, is

due 50% to coal, 35% to oil and 15% to gas. As oil resources peak, coal will determine future

CO₂ levels. Recently, after giving a high school commencement talk in my hometown, Denison,

Iowa, I drove from Denison to Dunlap, where my parents are buried. For most of 20 miles there

were trains parked, engine to caboose, half of the cars being filled with coal. If we cannot stop

the building of more coal-fired power plants, those coal trains will be death trains – no less gruesome than if they were boxcars headed to crematoria, loaded with uncountable irreplaceable species.

So, how many of the exterminated species should be blamed on the 297,000,000 tons of CO₂ that will be produced in 50 years by the proposed Sutherland Generating Station Unit 4 power plant? If the United States and the rest of the world continue with "business-as-usual" increases in CO₂ emissions, a large fraction of the millions of species on Earth will be lost and it

will be fair to assign a handful of those to Sutherland Generating Station Unit 4, even though we

cannot assign responsibility for specific species. Moreover, the effect of halting construction of

this power plant potentially could be much greater, because of the possibility of positive feedbacks among people.

Q. What tipping points in human behavior are you referring to?

A. As the reality of climate change becomes more apparent, as the long-term consequences of

further climate change are realized, and as the central role of coal in determining future atmospheric CO₂ is understood, the pressures to use coal only at power plants where the CO₂ is captured and sequestered will increase. If the public begins to stand up in a few places and successfully opposes the construction of power plants that burn coal without capturing the CO₂, this may begin to have a snowball effect, helping utilities and politicians to realize that the public prefers a different path, one that respects all life on the planet.

The changes in behavior will need to run much broader and deeper than simply blocking new dirty coal plants. Energy is essential to our way of life. We will have to find ways to use energy more efficiently and develop renewable and other forms of energy that produce little if

any greenhouse gases. The reward structure for utilities needs to be changed such that their profits increase not in proportion to the amount of energy sold, but rather as they help us achieve

greater energy and carbon efficiency. As people begin to realize that life beyond the fossil fuel

era promises to be very attractive, with a clean atmosphere and water, and as we encourage the

development of the technologies needed to get us there, we should be able to move rapidly toward that goal. But we need tipping points to get us rolling in that direction.

Iowa, and this specific case, can be a tipping point, leading to a new direction. A message that 'old-fashioned' power plants, i.e., those without carbon capture and sequestration,

are no longer acceptable, would be a message of leadership, one that would be heard across Iowa

and beyond the state's borders.

Q. Alleged implications of continued coal burning without carbon capture are profound and thus require proof of a causal relationship between climate change and CO₂ emissions.

What is the nature of recent global temperature change?

A. Figure 1(a) shows global mean surface temperature change over the period during which instrumental measurements are available for most regions of the globe. The warming since Figure 1(a) shows global mean surface temperature change over the period during which instrumental measurements are available for most regions of the globe. The warming since the

beginning of the 20th century has been about 0.8°C (1.4°F), with three-quarters of that warming

occurring in the past 30 years.

Q. Warming of 0.8°C (1.4°F) does not seem very large. It is much smaller than day to day weather fluctuations. Is such a small warming significant?

A. Yes, and it is important. Chaotic weather fluctuations make it difficult for people to notice changes of underlying climate (the average weather, including statistics of extreme fluctuations),

but it does not diminish the impact of long-term climate change.

First, we must recognize that global mean temperature changes of even a few degrees or less can cause large climate impacts. Some of these impacts are associated with climate tipping

points, in which large regional climate response happens rapidly as warming reaches critical levels. Already today's global temperature is near the level that will cause loss of all Arctic sea

ice. Evidence suggests that we are also nearing the global temperature level that will cause the

West Antarctic ice sheet and portions of the Greenland ice sheet to become unstable, with potential for very large sea level rise.

Second, we must recognize that there is more global warming "in the pipeline" due to gases humans have already added to the air. The climate system has large thermal inertia, mainly due to the ocean, which averages 4 km (about 2.5 miles) in depth. Because of the ocean's inertia, the planet warms up slowly in response to gases that humans are adding to the atmosphere. If atmospheric CO₂ and other gases stabilized at present amounts, the planet would still warm about 0.5°C (about 1°F) over the next century or two. In addition, there are more gases "in the pipeline" due to existing infrastructure such as power plants and vehicles on the road. Even as the world begins to address global warming with improved technologies, the old infrastructure will add more gases, with still further warming on the order of another 1°F.

THOMAS HALBEDEL

From: "THOMAS HALBEDEL" [REDACTED]
To: "THOMAS HALBEDEL" [REDACTED]
Sent: Monday, February 25, 2008 4:08 PM
Subject: Re: AMP-OH RECIPE FOR DISASTER

From: JANE HALBEDEL
To: mayorjackson@city.cleveland.oh.us
Subject: AMP-OH RECIPE FOR DISASTER

My intent: To convince Cleveland City Council to sever Cleveland from your contract for the proposed AMP-OH coal-fired power plant in Meigs County.

For you to do otherwise on February 25th, 2008, will be a sad day for Cleveland; and a monumental global detriment executed at a critical point in Earth's history.

About three years ago the journal "*Science*" published scientific proof that was derived from a study conducted by the illustrious Dr. James Hansen and his NASA colleagues that global warming exists.

The NASA scientists knew the enormity of their findings even then: "Over years and decades it (the heat) accumulates, and if left long enough, it will mean the difference between survival and destruction for our species".

James Hansen, Director of NASA's Goddard Institute for Space Studies, has achieved such acclaim, that he is perhaps, arguably the world's most renowned Climate Scientist.

Jim's conviction to convey the truth is demonstrated by his personal willingness to help me to convey to you, the potential for harm that this AMP-OH plant can inflict on our planet.

In a letter drafted to an unspecified governor, (file attached,) Jim explains "when fossil fuel is burned, one-third of the Carbon is still in the air after 100 years; and one-fifth of the Carbon is still in the air after 1000 years, a reality, Jim makes analogous to a "pipeline".

Jim says that global warming in the past century, is about 1 degree Fahrenheit and about 2 degrees Fahrenheit over land areas. Due to Carbon's airborne longevity, there is "at least that much warming 'in the pipeline' without the inclusion of future Carbon emissions.

"As a result, global climate is nearing critical tipping points that could cause: loss of Arctic sea ice with detrimental effects on wildlife and indigenous people; Antarctic and Greenland ice sheet disintegration, with sea level rise possibly accelerating out of control; reduced freshwater supplies for hundreds of millions of people, and a more intense hydrologic cycle, with stronger droughts and forest fires, but also heavier rains and floods, and stronger storms driven by latent heat, including tropical storms, tornadoes and thunderstorms".

Recall the PD article of 10/27/07, "**NATION'S FRESHWATER SUPPLIES ARE DWINDLING**". "The U.S. government projects that at least 36 states will face water shortages within five years". Due to the draught status of California, portions of the southwest, and the southeast, these conditions in America are self-evident.

Recently, I described the following event to Jim Hansen:

I believe the year was 2003. I was in a life threatening storm driving the Ohio Turnpike through Ottawa County, known as Tornado Alley.

I fought torrential rains and intense winds, to take refuge in a turnpike plaza. Kids from Cedar Point, our amusement park, and I took safety in a storage room located in the basement, as the tornado's path nearly encircled the plaza.

Ottawa county was declared a National Disaster Area. As a result of extensive damage, the National Guard did police those affected areas until the region stabilized.

Two tornadoes had become one entity; and struck the Davis Bessie Power Plant. Weeks later, the plant shut down in order to remove sediment from the pipes. I do not know if that situation was storm related. But, this has been a plant inundated with problems, and was on one recent occasion, on the verge of a melt down.

I later learned that after the plant had been struck, an international alert had been sounded. I believe this was a "just in case scenario"; to prevent foreign countries from presuming that the United States was under attack. According to my recollection, this was the first time in Nuclear plant history, that a weather related event of this magnitude had ever been recorded.

I inquired of Jim: Given the areas's proclivity for tornadoes, what do you see as the likelihood, that tornadoes would increase in prevalence in the future? **The recent onslaught of 60 plus tornados and the resulting devastation in Tennessee, has given me great pause to consider, what if ???**

You will recall Jim's earlier predictions in his gubernatorial letter, e-mailed to me after I had raised this issue: "heavier rains and floods, and stronger storms driven by latent heat, including tropical storms, tornadoes and thunderstorms".

After a great deal of reading, I developed the following equation, that seems to echo the reasons climate scientists predict intensified and extreme weather-related events:

**HUMAN-MADE CARBON EMISSIONS YIELD GLOBAL WARMING;
GLOBAL WARMING YIELDS CLIMATE CHANGE;
CLIMATE CHANGE YIELDS EARTH'S INTENSE REACTIVITY,
THAT MAY CONTINUE TO WRECK HAVOC ON THE UNITED STATES OF AMERICA FOR
YEARS TO COME.**

If we accept the increased likelihood that explosive forms of weather will continue to occur in the United States due to Carbon emissions: Why would Cleveland run the risk of contributing to increased tornado activity in the State of Ohio, or for that matter, anywhere else in our nation? But this AMP-OH coal-fired power plant has the potential to create world wide devastation. Read on.

In the "Iowa Coal Case" entry of 11/05/07, found on Hansen's web site: www.columbia.edu/jeh1 Dr. Hansen sites predictions of cataclysm in epic proportions; unlike man has ever seen before. You can ascertain this for yourself, by reading 10 pages or less of Dr. Hansen's initial testimonial.

Dr. Hansen states: **"Saving the planet and creation surely requires phase-out of coal use, except where the CO2 is captured and sequestered.**

Dr. Hansen makes this stark analogy: "If we can not stop the building of more coal-fired power

plants, those coal trains will be death trains-no less gruesome than if they were boxcars headed to crematoria, loaded with uncountable irreplaceable species.

Hansen identifies that in the climate system, the most threatening tipping point is for the potential instability of large ice sheets; in particular the West Antarctica and a portion of the Greenland ice sheet, noting that these could uncontrollably melt, if during the process of melting, their tipping points are surpassed. Hansen notes that the West Antarctica alone, contains enough water to cause sea level to rise about 20 feet. As hundreds of millions of people live less than 20 feet above sea level, those people affected from the massive floods, would be cumulatively 1000 times greater than those affected in the Katrina disaster in New Orleans". (See original version in attached unspecified letter).

I would add, that the United States is not to be excluded from this astronomical projection of 'hundreds of millions' of lives predicted to become climate refugees in the event of ice sheet melt down.

American citizens living in coastal areas such as Florida, Texas, Louisiana, and New York City, are also more subject to massive flooding. These cities have increased vulnerability because of their relation to sea level. Eventually, due to their dangerous location, they remain potentially subject to being overwhelmed from water due to hurricanes, storm surges, and from massive flooding.

Hansen states: **"Because of the danger of passing the ice sheet tipping point, even the emissions from one Iowa coal plant, with emissions of 5,900,000 tons of CO2 per year, and 297,000,000 tons over 50 years, could be as important as the 'straw on the camel's back'.**

Now consider: **Should Cleveland City Council finalize and place into operation its contract for the construction of the AMP-OH facility in Meigs county, to emit 7.3 million tons of Carbon annually for a 50 year period; which totals 365 million tons of Carbon emitted into the Earth's atmosphere for the duration of the contract; these Carbon emissions EXCEED those CO2 emissions predicted for the Iowa plant by 68 million tons.**

Therefore, the AMP-OH plant, minus Carbon capture and sequestration, could at some future point, create imminent danger; adversely undermine the sustainability of our planet; its peoples and other living inhabitants.

Therefore, **THE AMP-OH COAL-FIRED POWER PLANT MUST BE DENIED.**

Last Friday, Cleveland's Natural History Museum, featured Dr. George Collins, Astrophysicist, and Astronomy Professor Emeritus of Case Western Reserve University. Dr. Collins spoke on Global Warming trends and issues.

Dr. Collins showed Jim Hansen's NASA graphs, that moved in fast succession, replicating the melting of the world's various glaciers over recent years. I could not count the innumerable times Dr. Collins referenced Jim Hansen, and his decades long history of substantive climate data. But it was one of his final remarks, that captured the message of his speech, and for me, seemed to resound throughout the auditorium":

"JIM HANSEN'S PREDICTIONS FOR THE PLANET ARE DEAD ON".

The Ravaging Tide is a rather prophetic book. Listen to its subtitle: Strange Weather, Future Katrinas, and the Coming Death of America's Coastal Cities. Tidwell's personal bearing witness to Katrina's devastation, is likely to penetrate the armor of nearly anyone, unless they are without a heart. This stark title echoes those very predictions of Jim Hansen, should we fail to reduce our Carbon emissions to the global community.

Jim Hansen's predictions are orchestrated in a rather different milieu:

"Six Degrees of Weather Change", courtesy of the National Geographic Channel. There is no question as to the gravity of the matter when New York City is futuristically depicted being overwhelmed by flooding seas.

Great speeches have been given throughout America's history, that clearly resonate with the issues of their time, to mobilize people to take action. Still others seem as relevant to today's issues, as though they were written just yesterday.

Tidwell speaks of a "haunting quote" attributed to Martin Luther King. These very same words could have been stated today by Dr. James Hansen. Listen, and see if you don't agree:

"We are now faced with the fact that tomorrow is today. We are confronted with the fierce urgency of now. In this unfolding conundrum of life and history, there is such a thing as being too late....We may cry out desperately for time to pause in her passage, but time is deaf to every plea and rushes on. Over the bleached bones and jumbled residues of numerous civilizations are written the pathetic words: 'Too late.'"

I can only hope that no son or daughter of yours; no grandchild or great grandchild of yours; no friend on distant or not so distant shore; nor the Andy Koosed's of the world, will ever have to echo the sorrow in Dr. King's sentiment.

My concluding remark is my personal belief:

**WHETHER YOU MAKE A RESPONSIBLE DECISION,
OR AN IRRESPONSIBLE DECISION, YOU ARE RESPONSIBLE.**

Respectfully submitted,
Jane M. Halbedel
Cleveland Resident