Proponents

Fox

MONTANA RENEWABLE ENERGY ASSOCIATION
P.O. Box 673
Missoula, MT 59806
(406) 214-9405
www.montanarenewables.org

July 14, 2016

Zoning Board of Adjustment
Cascade County
121 4th Street North
Great Falls, MT 59401

Dear Members of the Zoning Board of Adjustment,

I am writing today because I understand that you are considering two solar projects proposed to be built in Cascade County by Cypress Creek Renewables. These projects have the potential to provide substantial benefits for the state of Montana, particularly for Cascade County, and on behalf of the Montana Renewable Energy Association I encourage you to allow them to proceed.

The Montana Renewable Energy Association (MREA) is a nonprofit organization founded in 2000 with a mission to increase the use of renewable energy in Montana. Our members include dozens of small businesses across the state that sell and install distributed renewable energy systems such as rooftop solar arrays.

We urge you to consider the potential economic benefits of the proposed solar projects to your community, including property tax revenue and local jobs. Nationwide, the solar industry employs more than 200,000 people, and is growing at ten times the national average employment rate. We understand from Cypress Creek Renewables that their business model is to hire local contractors whenever possible for both project construction and ongoing maintenance (vegetation control and electrical work). MREA's members include a number of qualified solar installation businesses that would be eager for the opportunity to be involved in these projects.

In addition to its economic benefits, solar is a valuable energy resource. It produces at times of high demand for electricity, when power is especially valuable. By generating clean, pollution-free energy, solar avoids pollution control costs, diversifies our state's energy portfolio, and provides a hedge against volatile fossil fuel prices.

I understand that concerns have been raised about the possibility of glare from the proposed solar projects. While glare is a real concern for a different type of solar technology, called concentrated solar power (CSP), it is not an issue for solar photovoltaic (PV) systems. The US Department of Energy's National Renewable Energy Laboratory states that "PV modules use non-reflective glass and are designed to absorb rather than reflect the light that hits the panels in order to convert solar energy into electricity. PV modules are generally less reflective than windows and are installed at numerous airports."[1]

[1] National Renewable Energy Laboratory, *Top 5 Large-Scale Solar Myths*, https://www.nrel.gov/tech_deployment/state_local_governments/blog/top-five-large-scale-solar-myths. Accessed 7/13/16.

I also understand that concerns have been raised about the impact on local property values. This is another issue addressed by the National Renewable Energy Laboratory:

> While the impacts of a solar farm on neighboring property values have not been studied in-depth, numerous studies found the impact of wind energy generation on neighboring property values to be negligible. As solar farms do not have the same impacts as wind farms (i.e., PV facilities do not cast a shadow on neighboring properties, cause light flicker, or have the same visual impact as wind farms), the impacts on property values caused by solar farms are anticipated to be less than the impacts of wind farms.[2]

In addition, studies of the effect of *rooftop* solar on property values have found a significant positive impact: an average of $4 per watt of solar PV installed, or about $15,000 for a typical residential rooftop solar system.[3] While the property value effect of rooftop solar is not directly relevant to larger-scale solar arrays such as those proposed by Cypress Creek Renewables, it is an important indication of the value placed on solar by the public.

Thank you for considering these comments, and please don't hesitate to contact me if there's any additional information we can provide.

Sincerely,

Diana Maneta

Diana Maneta
Executive Director

---

[2] Ibid.

[3] Lawrence Berkeley National Laboratory, *Selling into the Sun: Price-Premium Analysis of a Multistate Dataset of Solar Homes*, January 2015. https://emp.lbl.gov/sites/all/files/selling-into-the-sun-jan12.pdf.

DEQ
Montana Department of Environmental Quality

July 14, 2016

Cascade County Board of Adjustments
Cascade County Planning Division Staff, Public Works Department
c/o Susan Conell and Deen Pomeroy
121 4th St. No. Suite 2H/I
Great Falls, MT 59401
via e-mail only at sconnell@cascadecountymt.gov; dpomeroy@cascadecountymt.gov

RE: Fox and Portage Solar projects

Dear Board Members and Planning Division Staff,

The Energy Bureau of the Montana Department of Environmental Quality appreciates the opportunity to comment on two solar projects currently being considered by the Zoning Board of Adjustments (Board). Both projects will provide sustainable and reliable economic development to Cascade County and help contribute to Montana's burgeoning and diverse renewable energy economy. In addition to positive economic impacts, these projects will have minimal impact on the existing uses and character of the area. These projects support the goals of DEQ's Energy Bureau to support projects that build our economy through clean energy. We recommend that the Board approve the permits for the Fox Solar and Portage Solar projects.

After attending the June 16th Board hearing on both solar projects we understand that there is some uncertainty and concern with potential impacts these projects may have on nearby property values and aesthetics. It is important that energy projects balance environmental protection, economic development, property rights, and energy demands. Solar can strike this balance and is considered by experts to be one of the most benign energy technologies available.

Montana has a very good solar resource; however, until recently, solar development in Montana has been limited to smaller scale solar arrays on rooftops across the state. As costs continue to decrease due to improvements in solar technology, the market for small, medium and larger scale solar will continue to grow rapidly. States that are embracing this booming solar market have experienced positive economic, energy, and environmental benefits that will continue to produce dividends into the future. We know that in-state renewable energy projects are already providing sustainable jobs and revenue to communities across the state. The two proposed solar projects that are under your consideration have the potential to provide those benefits directly to the citizens of Cascade County.

Solar energy is the fastest growing energy resource in the United States. This is largely due to the rapidly falling costs of panels and other system components. Montana has a tremendous and unprecedented opportunity to take advantage of these falling costs and tap into the state's solar potential at all scales. Medium-scale solar projects like the Fox Solar and Portage Solar projects will provide jobs, economic, and energy benefits to Cascade County's citizens.

The Energy Bureau at DEQ supports both of these projects because they present an opportunity to diversify Montana's energy mix as well as improve our state and local economies with negligible social and environmental impacts. We encourage the Board to approve permits for both of these projects. If you should have any further questions, please to do not hesitate to contact Brian Spangler, Manager, Renewables program at 406-444-6459.

Sincerely,

Laura Rennick Andersen
Chief, Energy Bureau
Montana Department of Environmental Quality

Top Five Large-Scale Solar Myths

February 3, 2016 by Megan Day

As large-scale solar facilities proliferate throughout the country, more communities are considering the potential merits and drawbacks of this new kind of neighbor. Initial reactions to the prospect of large-scale photovoltaic (PV) facilities or solar farms tend to include a myriad of misperceptions.

Actual questions about proposed solar farms in this former solar developer's experience have included:

- Won't drivers cause accidents rubber-necking at this strange facility?
- Can my cattle graze on there?
- Can I run an extension cord to power my house?

Here are the top five myths I encountered in my six years of working with communities to build solar farms:

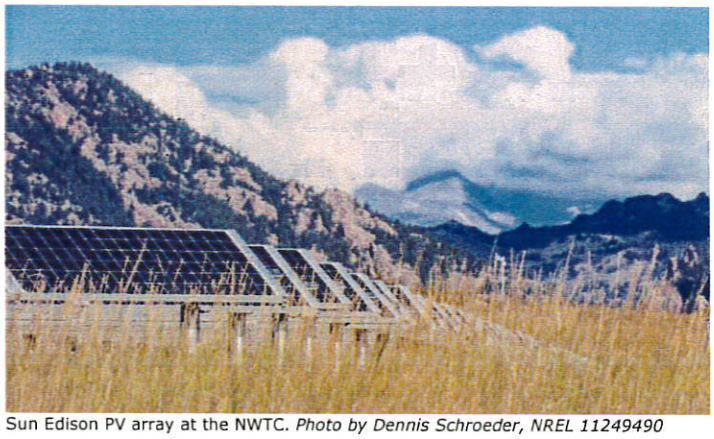
Myth #1: Solar farms are like factories

Local officials and planners often restrict solar farms in residential, commercial, and sometimes agricultural zoning districts, limiting their location to industrial districts. Industrial zoning is primarily intended to separate intense land uses, such as factories and distribution centers and their associated pollution, noise, and traffic, from residential areas. However, after construction, solar farms are quiet, clean facilities that generally have no on-site employees.

One city manager with numerous solar farms in his community compared the land use to a cemetery (no living inhabitants), demonstrating that solar farms can be compatible even with residential neighbors.

Myth #2: Glare

Residents and community officials often cite glare or blinding from solar facilities as a primary concern. While concentrating solar technologies do use mirrors which can cause glare, most solar farms use PV modules to generate electricity. PV modules use non-reflective glass and are designed to absorb rather than reflect the light that hits the panels in order to convert solar energy into electricity. PV modules are generally less reflective than windows[1] and are installed at numerous airports.[2]



Sun Edison PV array at the NWTC. *Photo by Dennis Schroeder, NREL 11249490*

Myth #3: Noise

The noisiest components in a solar farm are the inverters, which generate a low buzzing sound as they convert electricity from the direct current (DC) generated by PV modules to alternating current (AC) used by the electric grid. Tracking equipment allowing PV modules to face the sun over the course of the day can also generate a low level of noise. However, the noise generated by solar farms is generally not audible above ambient noise outside of the facility fence.[3]

Myth #4: Property values

While the impacts of a solar farm on neighboring property values have not been studied in-depth, numerous studies found the impact of wind energy generation on neighboring property values to be negligible.[4] As solar farms do not have the same impacts as wind farms (i.e., PV facilities do not cast a shadow on neighboring properties, cause light flicker, or have the same visual impact as wind farms), the impacts on property values caused by solar farms are anticipated to be less than the impacts of wind farms. Some communities have opted for mitigation measures to reduce visual impacts of solar farms through the use of vegetative screening or decorative fencing, since PV modules are usually mounted close to the ground (less than seven feet high).

Myth #5: Electro-magnetic fields

Solar facilities generate electro-magnetic fields similar to household appliances within close proximity, which dissipate with increasing distance and pose no health risk to neighboring residents.[5]

Concerns about proposed solar farms are often offset by local benefits such as significant local employment and spending during construction, increased property tax revenues with minimal drain on public services, and low water use, emission-free electricity generation.

[1]http://www.hindawi.com/journals/isrn/2011/651857/, http://www.mass.gov/eea/docs/doer/renewables/solar/solar-pv-guide.pdf

[2] Sandia National Laboratory developed a modeling tool, used by the Federal Aviation Administration, that tests for potential glare from solar installations on flight paths and control towers and can be used for other applications.

[3] http://images.masscec.com/uploads/attachments/Create%20Basic%20page/Study_of_Acoustic_and_EMF_Levels_from_Solar_Photovoltaic_Projects.pdf

[4] http://www.realtor.org/field-guides/field-guide-to-wind-farms-their-effect-on-property-values

[5] http://images.masscec.com/uploads/attachments/Create%20Basic%20page/Study_of_Acoustic_and_EMF_Levels_from_Solar_Photovoltaic_Projects.pdf, http://www.oregon.gov/odot/hwy/oipp/docs/emfconcerns.pdf; http://www.ncbi.nlm.nih.gov/pubmed/26023811

+3

Printable version

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Need Help? | Security & Privacy | Disclaimer | NREL Home

Stuart C Nicholson
Four Volk Terrace
Great Falls, MT 59405

RECEIVED JUN 1 3 2016

Deen Pomeroy, Cascade County Planning Division
121 4th Street North Suite 2 H/I
Great Falls MT 59401

June 10, 2016

RE Unclassified Use Permit application to allow solar power plants on Parcel 2452000 and Geo Code:02-3015-24-3-01-04-00000

Dear Deen,

I can't attend the public hearing on June 18 because of a doctor appointment but I am in favor of this modification to increase our tax base and to provide clean energy and additional construction jobs. This is a no brainer.

Sincerely

Stuart C Nicholson

Citizens for Clean Energy, Inc.
3417 4th Avenue South, Great Falls, MT 59405 406-453-0725
e-mail: cce-mt@bresnan.net www.cce-mt.org

WIND, WATER AND FUTURE

13 June 2016

Cascade County Zoning Board of Adjustment
121 4th Street North #2H-2I
Great Falls, MT 59401

RECEIVED JUN 1 3 2016

Subject: Portage Solar, LLC and Cypress Creek Renewables Unclassified Use Permit Applications

Dear board members,

Citizens for Clean Energy (CCE), Inc. (a non-profit 501c3) strongly supports both applications and urges the board to please approve these pioneering renewable energy projects which benefits the community and is consistent with the Cascade County Growth Policy and existing policies.

CCE is confident the planning staff, the Zoning Board of Adjustment and the county commissioners will exercise due-diligence and oversight to insure these solar projects will be successful and provide revenue and safeguards for the land-owners and county treasury and be profitable for the solar developers. Cascade County itself has developed a 50kw wind-system and is using limited solar at public works facility for the county.

Harry Mitchell and the Pierce family are to be commended for being – to our knowledge in the county – the first to take the bold steps to work with Portage Solar and Cypress Creek and show how these projects will help add clean energy to our local and national energy grids and expand a growing interest in commercial and utility level solar plants beside private and rural applications on farms and ranches. Solar is heavily used in Texas and Oklahoma where solar sheds provide shade for cattle AND generate electricity to power the water wells for the cattle.

The unclassified use permit and revised zoning regulations should provide effective tools to insure the projects are in compliance and benefit our county's economic and energy goals.

Sincerely,

Richard D. Liebert
Chair, Citizens for Clean Energy, Inc.
Lt. Colonel (Retired) US Army

PS – in the interest of full-disclosure, I am a member of the county planning board and the comments above are on behalf of CCE and myself as a private citizen.

Pomeroy, Deen

From: wwranch@3rivers.net
Sent: Saturday, June 11, 2016 11:17 PM
To: Pomeroy, Deen; Conell, Susan
Subject: solar farms, demolition, bonds, etc?

Susan, Deen,

I'm all for solar and some I've talked to some citizens concerned about demolition/de-commissioning, etc, and there's also some concern for Lewis/Clark Heritage Trail, but that's neglible in context with clean energy vs. dirty energy.

I came across the link below to a 2014 plan/agreement which details decommissioning cost for the Apple One Solar Farm in North Carolina. The plan is quite detailed with its ultimate conclusion being that the salvage value for the solar equipment would more than pay for all decommissioning and restoration costs. The agreement between Catawba County and the developer requires a $50K performance bond be held in escrow to ensure future decommissioning and site restoration. Ron

http://www.catawbacountync.gov/Planning/Projects/Rezonings/RZ2014-06Decommission.pdf

In my capacity as a private citizen - and not in my capacity as a planning board member - and Chairman of Citizens for Clean Energy, I and CCE supports these bold, new steps into expanding renewable energy opportunities and development as the Cascade County Growth Policy and support of 25 x 25 (25% renewable by 2025, 25x25.org) set forth by the commission in 2006.

The Department of Defense is also fully engaged on expanding renewable energy within all the services and solar is one of the rapidly expanding energy sources within DOD, as well as the civilian sector.

Respectfully,

Richard D. Liebert
Chair, CCE
Lt. Colonel (Retired) US Army

DR. CHERYL REICHERT, M.D., PH.D.
Pathologist • 51 Prospect Drive
Great Falls, MT 59405
Home Phone (406) 727-1964

May 24, 2016

Susan N. Conell, Cascade County Planning Director
121 4th St N # 2h
Great Falls, MT 59401

re: Zoning regulations for solar energy

Dear Ms. Conell & Planning Staff:

I would like to commend your department and Cascade County for its progressive attitude in adapting zoning regulations that will assist development of future solar energy projects. Thank you for soliciting public comment on this issue.

This anticipatory approach is a HUGE improvement over the county-sanctified, ill-fated 250 MW Highwood coal-fired generation station that would have spewed dangerous PM 2.5, mercury, and other pollutants into our Big Sky, as well as contributed to global warming.

In 2005 Charles Bocock and I had 10 photovoltaic solar panels installed at our home in Great Falls. With the exception of once having to shore up the connections to deal with Great Falls winds, our solar system has been maintenance-free and hassle free. We also installed battery back-up power for our system, so the many power outages that have occurred in our neighborhood have had minimal impact on our lifestyle.

Having multiple small commercial developments will allow more area residents to participate in the future clean energy revolution.

Sincerely yours,

Cheryl M. Reichert, MD, PhD

Theodore "T.R." Roosevelt (October 27, 1858 – January 6, 1919) was an American politician, author, naturalist, explorer, and historian who served as the 26th President of the United States from September 14, 1901 to March 4, 1909. He was a leader of the Republican Party and founder of the Progressive Party. For many people Theodore Roosevelt was the most fascinating man ever to lead the nation. An appealing mix of high moral purpose and humorous enthusiasm for life, he was an irresistible subject for scholars and a popular press that often portrayed "Teddy" as more outlandish than his actions warranted. Reading was his solace and refuge, and in a life crowded with enormous public and family responsibilities, he found time to write over 30 volumes: histories, biographies, social and political commentary, natural science, memoirs, travel writing, adventure tales, and countless editorials, essays and articles. The image on the front of this postcard is his official presidential portrait, painted by John Singer Sargent in 1903.

DEAR MR. CHAIRMAN AND BOARD MEMBERS, 6/20/16

PLEASE LET SCIENCE AND FACTS PREVAIL OVER EMOTIONS IN CONSIDERATION TO APPROVE THE U.G. PERMITS FOR OUR FIRST SOLAR ENERGY PROJECTS WITH APPROPRIATE MITIGATION AND MEASURES.

EACH PROJECT SHOULD BE JUDGED ON IT'S OWN MERITS, PRO AND CON. THIS IS OUR 1ST 'SOLAR' RODEO IN COUNTY DEVELOPMENT AND WE CAN TAKE THE TIME FOR DUE-DILIGENCE AND DUE-PROCESS.

SINCERELY, RDL

RICHARD D. LIEBERT, 287 BOSTON COULEE ROAD, GREAT FALLS, MT 59405
WINDWALKER RANCH, EDEN, UT. COL(RET), US ARMY

P.S. - I SENT THIS PARTICULAR FROM 'T.R.'S NY HOME AND HISTORICAL SITE BECAUSE YOU AND THE BOARD ARE THE 'CITIZENS IN THE ARENA' AND THANK YOU.

MADE IN THE USA

MIX Paper from responsible sources FSC® C019127

©2014 PIGMENT & HUE, INC. ALL RIGHTS RESERVED.

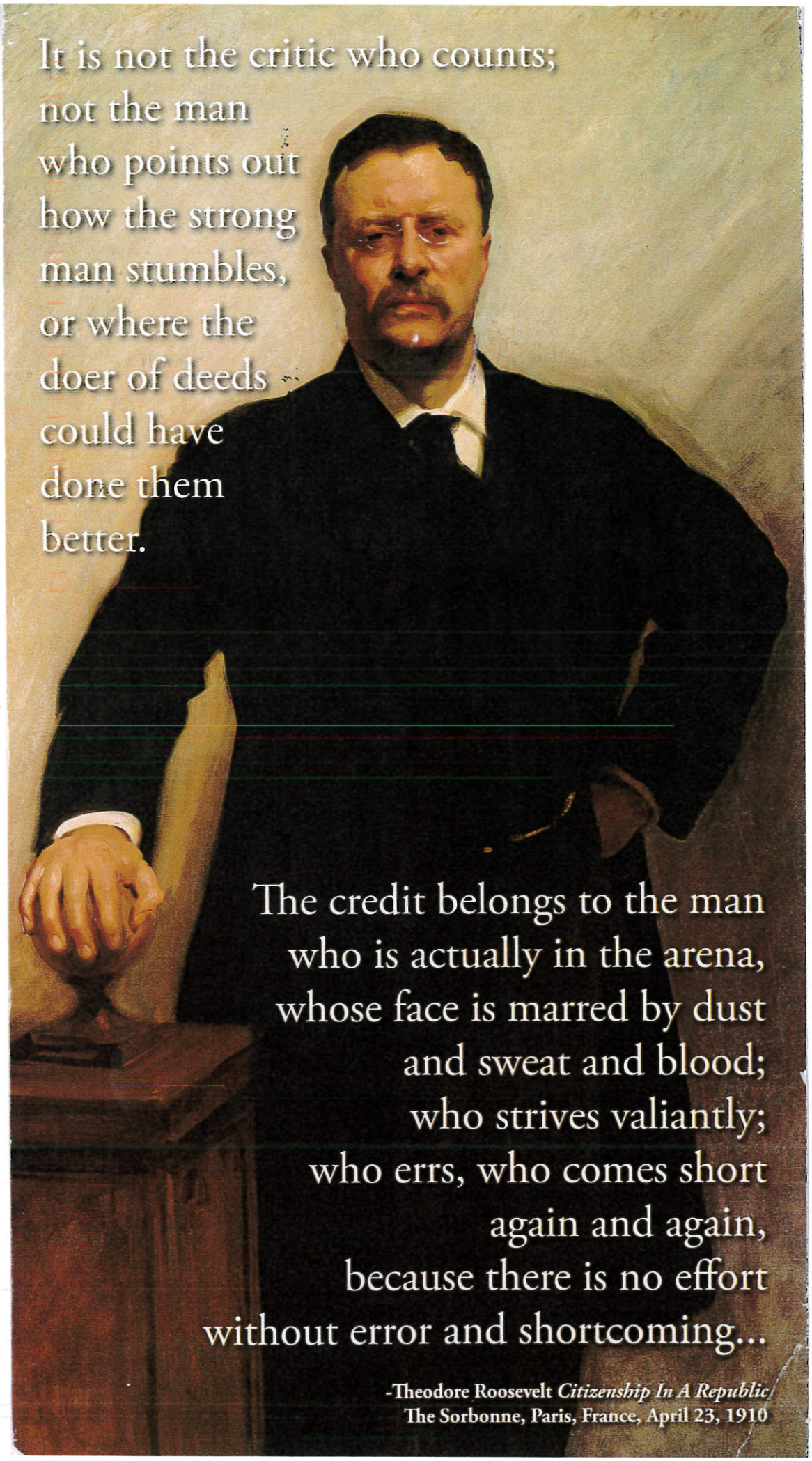
59401-2575 6 53370 31496 5

MID-ISLAND NY 117
25 JUN 2016 PM 4 L

MEDAL OF HONOR
ARMY/FOREVER/USA

RECEIVED JUN 29 2016

CHAIRMAN BRIAN RUCKMAN
CASCADE COUNTY C.B.O.A.
ATTN: PLANNING DIVISION
121 4TH ST. N, #211-21
GREAT FALLS, MT 59401


It is not the critic who counts;
not the man
who points out
how the strong
man stumbles,
or where the
doer of deeds
could have
done them
better.
The credit belongs to the man
who is actually in the arena,
whose face is marred by dust
and sweat and blood;
who strives valiantly;
who errs, who comes short
again and again,
because there is no effort
without error and shortcoming...
-Theodore Roosevelt *Citizenship In A Republic*
The Sorbonne, Paris, France, April 23, 1910