



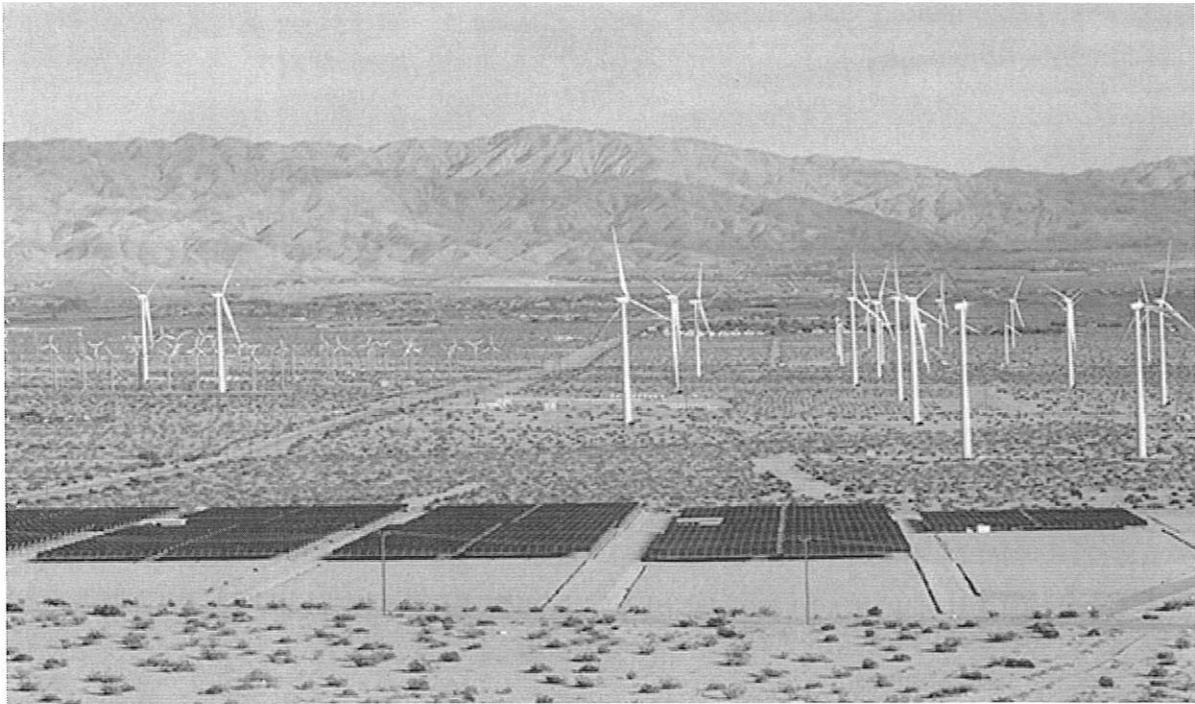
The high cost of unreliable power

Wind and solar power subsidies put dependable energy at a disadvantage

Benjamin Zycher

August 7, 2017 12:00 am | *The Washington Times*

The climate obsessions of the Obama administration yielded a substantial myopia with respect to the other central goals of energy policy, the cost and reliability of the electric power system in particular. One obvious result of that single-minded focus was a concerted effort to ignore several unavoidable trade-offs, as the push proceeded for expansion of wind and solar (“renewable”) electricity generation, rationalized as “cleaner” than such conventional generation as coal and natural gas.



@Hayley_Alexander via Twenty20

More about that purported cleanliness below. For now, we should recognize the importance of a new draft study from the Department of Energy, which examines the effect of increasing reliance upon wind and solar power on the reliability of the nation's power system. Shunted aside by the Obama administration, this topic is crucial because of the intermittent nature of wind and sunlight — unlike the energy from coal, natural gas or nuclear fuel. These are available upon demand and thus can be scheduled (“dispatched”), while wind and solar power are available only when they are available, and thus require substantial backup generation capacity in order to avoid power outages.

Such backup power is very expensive — my own estimate of those backup costs is \$368 per megawatt-hour — and there is an unavoidable trade-off between those extra costs and the massive costs of potential blackouts. The Energy Department's two central preliminary findings can be summarized as follows:

- Many retirements of large, reliable baseload plants over the past 15 years have been driven by competition from inexpensive natural gas, from a

slowing of demand growth for electric power, and from the anticipated costs of increasingly stringent environmental regulations.

- But since 2007 the growth of wind and solar power, driven heavily by large federal, state and local subsidies and by guaranteed market shares (“renewable portfolio standards”), has exacerbated the problem of large baseload plant retirements.

In short: The subsidies and guaranteed market shares for renewables have distorted the market. Large, efficient baseload plants fired by clean coal and nuclear technologies are difficult or impossible to ramp up and down as wind or sunlight conditions decline or rise. As a result, the “capacity factors” — the proportion of the time that they are producing power — of the baseload plants fall, the effect of which is to increase their average production costs.

The outcome described in the Energy Department study is straightforward: The plants cannot operate efficiently, their owners cannot cover their costs, and their early retirements are reducing the reliability of the electric power system, an effect that is both costly and unavoidable — and dangerous in terms of the potential for blackouts.

Notwithstanding ubiquitous assertions to the contrary, wind and solar power are expensive and unreliable. They are expensive because the energy content of wind and sunlight is unconcentrated. That is why they are dependent upon massive subsidies and guaranteed market shares; when those are threatened with policy reforms, investment in those sectors collapses to zero. Moreover, the production subsidies for renewables — the production tax credit for wind power in particular — allow the wind power producers to underprice their electricity without incurring financial losses. Coal and nuclear baseload plants, which cannot ramp up and down easily or at all, must match those artificially low prices, which under some conditions actually are negative. The longer-term effect of this large distortion is less investment in reliable baseload capacity, and thus a power system that is less reliable.

Moreover, there is nothing “clean” about renewables. There is the heavy-metal pollution created by the production process for wind turbines. There are the noise and flicker effects of wind turbines. There is the large problem of solar panel waste. There is the wildlife destruction caused by the production of

renewable power. There is the land use both massive and unsightly, made necessary by the unconcentrated nature of renewable energy.

And above all: There is the increase — yes, increase — in the emissions of conventional effluents caused by the up-and-down cycling of the conventional backup generation units needed to avoid blackouts caused by the unreliability of wind and solar power.

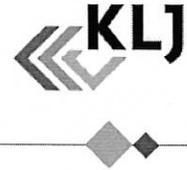
The Energy Department reliability study is important because it exposes the central problem with wind and solar subsidies swept for so long under the rug. Such policy support is forcing the shutdown of large numbers of reliable baseload power plants producing inexpensive conventional electricity, in favor of unreliable wind farms and solar power facilities, a growing distortion mandated in pursuit of a climate agenda even though the net effect on global temperatures of the assumed reduction in greenhouse gas emissions would be effectively unmeasurable by the year 2100. Can this possibly make sense?

Benjamin Zycher is a resident scholar at the American Enterprise Institute.

This article was found online at:

<http://www.aei.org/publication/the-high-cost-of-unreliable-power/>

CONSTRUCTION FIELD REPORT



Project Name: NCMRWA Segment W4-B1 Shelby to Conrad

◇ **Report Date:** 8/11/2017

Owner: NCMRWA

Project Location: Shelby to Conrad, MT

KLJ Project No: 4615048

Contractors: Downing Construction Inc.

Reporter: Aaron Peters

Weather & Site Conditions

- Hot through most of the week with daily highs in the 80s and 90s.

Construction Activities

- The week of August 6th Downing Construction started installing pipe up the steep slope section South of the river from sta. 565+29.00 - 573+45.00. Wednesday 8/9/17 water was shut off and tie-in connections were made at sta. 1+00.00 (pg. WL-C15) and sta. 10+00.00 (pg. WL-C17), everything went smoothly. At tie-in sta. 10+00.00 a thrust block was placed along with foam blue board on top of the tie-in pipe because of lack of pipe depth.

Construction Pictures

18" tie-in Sta. 10+00.00

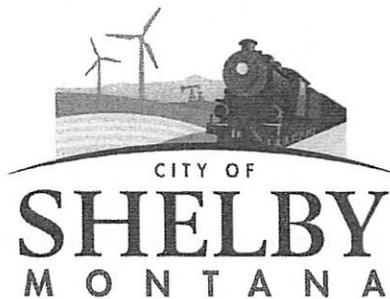


16" tie-in Sta. 1+00.00



CITY OF SHELBY

112 First Street South
Shelby, MT 59474
Telephone: (406) 434-5222
FAX: (406) 434-2039
www.shelbymt.com



Mayor: Larry J. Bonderud
Council: Deb Clark, Brian Lee,
Bill Moritz, Lyle Kimmet,
Gary McDermott, John "Chip" Miller, Jr.
Animal Control: Mark Warila
Attorney: William E. Hunt, Jr.
Building Inspector: Rob Tasker
Community Development: Lorette Carter
Finance Officer: Jade Goroski
Judge: Joe Rapkoch
Recreation Director: Cindy Florez
Superintendent: Loren Skartved

August 14, 2017

Montana Main Street Program
MT Department of Commerce, Community Development Division
P.O. Box 200523
Helena, MT 50620-0523

Dear Review Committee,

The City of Shelby commits the hard match of \$900.00 to the application for Montana Main Street funding for the creation of a Historic Preservation Plan; inventory; and designation of a historic district for the Downtown Shelby Historic District.

We thank you for the opportunity to have this preservation work done for our community.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry J. Bonderud".

Larry J. Bonderud, Mayor
City of Shelby

Cc: Shelby City Council

TEMPORARY PARKING PERMIT

| | |
|----------------------|-------------------------------|
| Trailer Type | 5th Wheel camper, Thor Mirage |
| Name | Larry Yarn |
| Address | 1206 3rd St N |
| Phone # | 450-0262 |
| Date(s) Valid | August 15-25, 2017 |
| Permit Number | 2017-025 |

MAYOR *Larry Bondrud*

CONDITIONS OF THIS PERMIT:

1. Valid ONLY for date(s) indicated.
2. Must be displayed while parked at all times.
3. The acceptance of this permit relieves the City of Shelby of any responsibility for damages to or loss of vehicle, its contents or accessories from any cause whatsoever.

CITY OF SHELBY

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CITY OF SHELBY
MONTHLY ANIMAL CONTROL REPORT

JULY 2017
(Month) (Year)

Animal Control Calls and/or Complaints

| | | |
|--------------------------------|-----------|---------|
| City Hall or Public Works..... | 6 | Dog Cat |
| Sheriff's Office..... | <u>15</u> | 4-2 |
| On Patrol..... | <u>14</u> | 13-2 |
| | | 10-4 |

Fees Collected by Animal Control Officer

| | |
|------------------------------------|----------|
| Destroyed- Animals brought in..... | <u>0</u> |
| License..... | <u>0</u> |
| Pound | <u>0</u> |
| Rabies Shot..... | <u>0</u> |

Pound Activity

| | | |
|--|---------------|---------|
| Animals in pound at end of last month..... | 2 | Dog Cat |
| Impounded..... + | | 1-1 |
| Destroyed - Animals from pound..... - | <u> </u> | |
| Destroyed - Animals brought in..... + | <u> </u> | |
| Released/Returned to owner..... - | <u> </u> | |
| Total in Pound Month End - - - - - > | <u>3</u> | 0-3 |

Dead Animals

| | |
|-------------------------------|----------|
| Marias Vet Clinic..... | <u>0</u> |
| Other (list where picked up): | <u>0</u> |

Vehicle Log

| | |
|---------------------------------------|--------------|
| Gallons of Gas..... | <u>0</u> |
| Mileage - current month reading..... | <u>89360</u> |
| Mileage - previous month reading..... | <u>89216</u> |
| Total Mileage..... | <u>144</u> |

Warnings and/or Citations

| | |
|-----------------------|-----------|
| Verbal Warnings..... | <u>12</u> |
| Written Warnings..... | <u>4</u> |
| Citations Issued..... | <u>0</u> |

Licenses Issued

| | |
|-------------------|------------|
| Month..... | <u>2</u> |
| Year to Date..... | <u>354</u> |


Animal Control Officer.

cc: City Superintendent
City Council (deliver to City Hall 1st of month)
Animal Control file

Business Type Codes

Business Types: HOME HOME OCCUPATION REGL-1 REGULAR (LOCAL) JULY - JUNE REGL-2 REGULAR (LOCAL) OCT - JUNE
 REGL-3 REGULAR (LOCAL) JAN - JUNE REGL-4 REGULAR (LOCAL) APR - JUNE REGO-1 OUT OF TOWN JULY -
 JUNE REGO-2 OUT OF TOWN OCT - JUNE REGO-3 OUT OF TOWN JAN - JUNE REGO-4 OUT OF TOWN APR -
 JUNE

| Business Type Code | Description | Physical Address |
|--|-----------------------------|--|
| Business Person in Charge | | |
| REGL-1 | REGULAR (LOCAL) JULY - JUNE | |
| 1ST CHOICE PLUMBING STEVENSON, DAVE | | SHELBY MT 59474 |
| ALI REEDY LMT REEDY, ALI | | 424 MAIN ST SHELBY MT 59474 |
| BURLINGTON NORTHERN & SANTA FE RAILWAY CO. | | 230 W CENTRAL AVE SHELBY MT 59474 |
| CODAKABA, LLP MATOON, DAVE | | 727 GRANITE AVE SHELBY MT 59474 |
| CONANT HEATING & COOLING CONANT, CORY | | 548 7TH AVE S SHELBY MT 59474 |
| HELPING HANDS CONSTRUCTION STRICKLAND, ALLEN | | 403 SHERIDAN ST SHELBY MT 59474 |
| HI LINE DESIGN HALLENBERG, DEBBIE | | 244 MAIN ST SHELBY MT 59474 |
| JOSH RIPHENBURG RIPHENBURG, JOSH | | 102 RUSSELL RD SHELBY MT 59474 |
| KANEFF EXCAVATING KANEFF, JAMES G | | 651 GRANITE AVE SHELBY MT 59474 |
| MODERN ELECTROLYSIS ENNEBERG, CRYSTAL | | 925 OILFIELD AVE SHELBY MT 59474 |
| MOENCH CONSTRUCTION MOENCH, TERRY | | 248 PLUM ST SHELBY MT 59474 |
| NATION CONSTRUCTION NATION, TREY | | 912 CEDAR AVE SHELBY MT 59474 |
| WESTERN ESTATE ASSOCIATES HAGMAN, JOHN | | 301 1ST STREET SO #8 SHELBY MT 59474 |
| WIMPY CONSTRUCTION LLOYD WENTWORTH | | 1022 2ND ST SO SHELBY MT 59474 |
| REGO-1 | OUT OF TOWN JULY - JUNE | |
| AMERICAS CHOICE, INC WOOD, GREG & JEANETTE | | 6 SPRING RIDGE DRIVE GREAT FALLS MT 59404 |
| C.G. ROOFING, LLC GLICK, CHRIS | | FAIRFIELD MT 559436 |
| CABINET MOUNTAINS CONSTRUCTION KJOS, ROBERT C | | 139 COTTONWOOD RD HERON MT 59844 |
| CORNERSTONE INDUSTRIES CULVER, STEPHEN | | 203 PONDERA AVE VALIER MT 59486 |

| Business Type Code | Description | Physical Address |
|--|-------------|--|
| Business Person in Charge | | |
| EPCON SIGN CO. THELEN, TERRY | | 1131 MONAD RD BILLINGS MT 59104 |
| FUSON EXCAVATION FUSON, JAMIE | | 129 CONRAD DUPUYER RD CONRAD MT 59425 |
| GLACIER COUNTRY CONSTRUCTION AND SERVICES, LLC STEWART, GARTH | | 221 2ND AVE SW CUT BANK MT 59427 |
| GO FIRE GO MAGAZINE SMITH, TRUDY | | PO BOX 124 BARONE AB TOL OGO |
| GREAT FALLS PAPER COMPANY FLAHERTY, MICHAEL J. | | 600 2ND ST S GREAT FALLS MT 59405 |
| GREEN MACHINE LANDSCAPING DVORNEKOVIC, JOE | | 114 3RD AVE SE CUT BANK MT 59427 |
| MEADOW GOLD DAIRY TODD HANSEN | | 312 3RD AVE S GREAT FALLS MT 59403 |
| O'NEAL ELECTRIC O'NEAL, MICHAEL | | 12095 BULLHEAD RD VALIER MT 59486 |
| PERFECTION PAINTING MOMBERG, JOHN "GARY" | | 54 JOHNSON RD N CUT BANK MT 59427 |
| PREWETT EXCAVATION & CONSTRUCTION PREWETT, RON | | 71 PRAIRIE PARK LANE CONRAD MT 59425 |
| SERVICE MASTER ALL PURPOSE CLEANING WOMACK, DAVID | | 2400 RIVER DRIVE NORTH GREAT FALLS MT 59401 |
| SUPERIOR SEAMLESS RAIN GUTTERS SONJU, RANDY | | |
| WIDHALM CONSTRUCTION WIDHALM, KELLY | | 443 HIGHLAND RD VALIER MT 59486 |

TOTAL DELINQUENT BUSINESSES

31