# Deer Creek Safety

<table>
<thead>
<tr>
<th></th>
<th>Final Statistics</th>
<th>Industry Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Man-hours</td>
<td>1,161,273</td>
<td></td>
</tr>
<tr>
<td>First Aid Incidents</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>OSHA Recordable Incidents</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Recordable Incident Rate</td>
<td>2.24</td>
<td>3.80</td>
</tr>
<tr>
<td>Lost Time Incidents</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lost Time Incident Rate</td>
<td>0.17</td>
<td>1.30</td>
</tr>
</tbody>
</table>
“The OPMS Steering Team cultivates a sustainable culture of proactive safety excellence through employee engagement, utilizing a process of continuous improvement to achieve zero incidents.”
Basin Electric is a member-owned and controlled wholesale power supply cooperative.
MEMBER OWNED

MEMBER DRIVEN

$6.1 BILLION
IN TOTAL ASSETS

138 MEMBERS

MORE THAN
2,200 EMPLOYEES

MORE THAN
5,400 MW
OF GENERATION

SERVING MORE THAN
2.8 MILLION
CONSUMERS
2007
Maximum winter capability in MW

- Coal-based – 2,303
- Hydro – 280
- Oil – 131
- Natural gas – 204
- Renewables – 157
- Nuclear – 0

TOTAL = 3,075 MW

Basin Electric’s Resource Portfolio (above) consists of generation in megawatts (winter ratings) from owned facilities and purchased power contracts longer than 3 years. The renewables percentage includes wind, recovered energy generation, and flare gas totals.
2015 Maximum winter capability in MW

- Coal-based – 3,154
- Hydro – 316
- Oil – 181
- Natural gas – 1,027
- Renewables – 1,005
- Nuclear – 62

TOTAL = 5,745 MW

Basin Electric’s Resource Portfolio (above) consists of generation in megawatts (winter ratings) from owned facilities and purchased power contracts longer than 3 years. The renewables percentage includes wind, recovered energy generation, and flare gas totals.
Engineering & Construction

CEO

Sr. VP E&C

Engineering
Proj Mgmt
Environmental
Right-of-Way
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The images on the previous page are real life, honest to goodness, ACTUAL Basin Electric BADGE PHOTOS.

Really.

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Universal Uclick Publishing
Flashback 2007

Preferred Resource Expansion

- Obligations
- 700 NextGen
- 100 MRY III
- 250 Intermediate
- GGS 2 + Calhoun
- 300 Wind

Existing/Committed Resources

MW

- 5,000
- 4,500
- 4,000
- 3,500
- 3,000
- 2,500

Deer Creek Station

- Elkton, SD
- 1x1 Natural Gas Combined Cycle
- Nominal 300MW incl. Duct Firing
- ~ $362.0 MM Budget
- Construction Start: July 27, 2010
- August 2012 COD
- Major Contracts
  - General Electric
  - Alstom
  - Nooter Erikson
  - SPX
  - Sargent & Lundy
  - Boldt Construction
Natural Gas Combined Cycle
Major Equipment
Project Location

NORTHERN BORDER PIPELINE

10" GAS PIPELINE
Deer Creek Site
Environmental/Permitting

- Environmental Impact Statement
  - Federal Agencies - Western / RUS
  - 3rd Party EIS Consultant - Burns & McDonnell
  - Kickoff Dec 11, 2008
  - Final Record of Decision July 27, 2010

- Air Permit
  - Submitted Mid May 2009
  - Permitting Assistance - Sargent & Lundy
  - Permit Received June 29, 2010

- SD State PUC Siting Permit
  - Notice of Intent filed Dec 22, 2008
  - Permitting Assistance - EDAW
  - Permit Received May 18, 2010

- County Conditional Use Permits

Topeka Shiner
(Notropis topeka)
(minnow)
General Works Contract

- Early Execution to Allow for Pre-Constructability Phase
- Cost Reimbursable With Target
- “True-ups” to Adjust Target for Quantity Changes as Design Progressed
- Profit / Loss Sharing Agreements
- Final Cost approximately $120 MM
Plant Capacity Factor

Full Load Net Plant Heat Rate:

Unfired: 6,900 Btu/KwH
Fired: 7,500 Btu/KwH
Misses

- Access
- Auxiliary Boiler
- Waste Water Cooling Tower
- Winterization, Winterization, Winterization
Access
No Auxiliary Boiler
Waste Water Cooling Tower
Little Known Facts About -41° F

-41° F = -41° C
Little Known Facts About -41° F

• -41° F = -41° C
• Hot Water to Ice
Little Known Facts About -41°F

- -41°F = -41°C
- Hot Water to Ice
- Time Travel
Little Known Facts About -41° F

- -41° F = -41° C
- Hot Water to Ice
- Time Travel
- Deer Creek Winter Design Temperature
Winterization
Hits

• Site Layout / Laydown Area
• Overhead Cranes / Truck Bays
• Field Office Building
• HRSG Elevator
Site Layout/Laydown Area
Overhead Cranes/Truck Bays
Field Office Building
HRSG Elevator
Aerial Photographs

Courtesy of Dakota Aerials
http://www.dakotaerials.com/

Dave Tunge
262 Lewis and Clark Trail
Yankton, South Dakota 57078
1-800-888-1439
20/20 Hindsight...
HRSG/Pipe Rack Building

- Capital Project Approved October 2015
- ~$22.0 MM
- Scheduled Completion Spring 2017
R.I.P.
GAVIN McCOLLAM
1964 - ?
HUSBAND, FATHER, AND THE GUY WHO DIDN'T ENCLOSURE THE DEER CREEK HRSG
Deer Creek Station

Gavin McCollam
gmccollam@bepc.com
701-557-5770