Duane Arnold Energy Center

Safety Information

**Built in a low-risk seismic zone:** Duane Arnold is in a very seismically stable area of the country.

**Constructed to withstand earthquakes:** Despite the low risk from seismic events, the plant is designed to withstand earthquakes and other natural events stronger than ever recorded in the region.

**Protected from flooding:** The plant is elevated 20 feet above river level to protect against flooding.

- During 2008’s historic 500-year flood, the Cedar River crested 14 feet below the plant’s design flood level
- During this event, DAEC was able to continue safe and reliable operations

**Seven-day power supply:** Safety and cooling systems can be powered for seven days without requiring any offsite power or additional fuel.

**Designed with multiple safety systems:** The Nuclear Regulatory Commission has mandated several structural improvements over time, enhancing Duane Arnold’s ability to deal with significant events:

- Four offsite power lines power the site’s cooling system
- Two diesel generators onsite can run for seven days without additional fuel
- Multiple steam-driven cooling pumps are available to power cooling systems (do not require external power)
- Back-up batteries for all critical cooling and control room systems are stored onsite
- External cooling options (i.e. injection and fire pumps) are pre-staged onsite; can use river water for cooling

**Highly trained plant operators:** For one full week out of every six weeks, plant operators must prove their ability to safely operate the plant in a variety of worst-case scenarios that include earthquakes, severe storms, flooding, loss-of-power, and loss of reactor core cooling.

System Information

<table>
<thead>
<tr>
<th>PRIMARY SYSTEM</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Reactor Type</td>
<td>One General Electric Boiling Water Reactor with a net electrical output of 615 MWe</td>
</tr>
<tr>
<td>Reactor Core</td>
<td>368 fuel assemblies</td>
</tr>
<tr>
<td>Reactor Vessel</td>
<td>67’ high; 15’ wide</td>
</tr>
<tr>
<td>Reactor Design</td>
<td>General Electric Mark 1</td>
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</tbody>
</table>

<table>
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<tr>
<th>SECONDARY SYSTEM</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Turbine/Generator</td>
<td>General Electric</td>
</tr>
<tr>
<td>Cooling Towers</td>
<td>Mechanical draft type — 2 towers, 12 cells each, makeup water from Cedar River</td>
</tr>
</tbody>
</table>

General Information

The Duane Arnold Energy Center (DAEC) is located in Palo, Iowa, approximately 9 miles northwest of Cedar Rapids. It is bordered by cornfields of neighboring farms and the banks of the Cedar River.

- **Workforce**
  - 600 during normal operations; nearly 1,500 during outage operations.

- **Salaries**
  - Approximately $85 million annually.

- **Economic impact**
  - Stimulates $255 million in economic activity in Iowa, $514 million nationally.

- **Property taxes paid**
  - Approximately $3 million annually.

- **Construction Permit granted**
  - June 1970

- **Full power operating license**
  - February 1974

- **Commercial operation**
  - February 1975

For More Information:

- [www.NEI.org](http://www.NEI.org)
- [www.NRC.gov](http://www.NRC.gov)
- [www.RadiationAnswers.org](http://www.RadiationAnswers.org)
- [www.EPA.gov](http://www.EPA.gov)
- [www.DuaneArnold.com](http://www.DuaneArnold.com)