Domestic Uranium Production Report 4th Quarter 2015

February 2016
Contacts

This report was prepared by the staff of the Power and Uranium Operations Team, Office of Electricity, Renewables, and Uranium Statistics. Questions about the preparation and content of this report may be directed to InfoNuclearData@eia.gov.
Preface


Previous issues of this report may be found on the EIA website at http://www.eia.gov/uranium/production/quarterly

Definitions for terms used in this report can be found in EIA’s Energy Glossary: http://www.eia.gov/tools/glossary/.
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4th Quarter 2015

U.S. production of uranium concentrate in the fourth quarter 2015 was 585,048 pounds U₃O₈, down 24% from the third quarter 2015 and down 46% from the fourth quarter 2014. The 49% reduction in the fourth quarter production compared with the 1,154,408 pounds U₃O₈ produced in the first quarter 2015 was from four fewer producing facilities. This may be attributed to the continued low market price of uranium. Additionally, the fourth quarter 2015 production level was the lowest quarterly U.S. production since the fourth quarter 2002.

During the fourth quarter 2015 U.S. uranium was produced at four U.S. uranium facilities, three less than in the third quarter 2015.

U.S. uranium mill in production (state)

none

U.S. uranium in-situ-leach plants in production (state)

1. Crow Butte Operation (Nebraska)
2. Lost Creek Project (Wyoming)
3. Nichols Ranch ISR Project (Wyoming)
4. Smith Ranch-Highland Operation (Wyoming)

Strata Energy’s Ross central processing plant in Wyoming became operational, but not producing in the fourth quarter 2015, after being under construction since third quarter 2014. Three facilities did not produce uranium during the fourth quarter 2015 compared with the third quarter 2015: White Mesa Mill (Utah), Hobson ISR Plant/La Palangana (Texas), and Willow Creek Project (Wyoming).

Preliminary 2015 total

U.S. uranium concentrate production totaled 3,303,977 pounds U₃O₈ in 2015. This amount was 32% lower than the 4,891,332 pounds produced in 2014 and the lowest annual U.S. production since 2005. U.S. production in 2015 represents 7% of the 2015 anticipated uranium market requirements of 46.5 million pounds for U.S. civilian nuclear power reactors.¹

¹ 2014 Uranium Marketing Annual Report, Table 12
Table 1. Total production of uranium concentrate in the United States, 1996 – 4th Quarter 2015

<table>
<thead>
<tr>
<th>Calendar-year quarter</th>
<th>1st quarter</th>
<th>2nd quarter</th>
<th>3rd quarter</th>
<th>4th quarter</th>
<th>Calendar-year total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>1,734,427</td>
<td>1,460,058</td>
<td>1,691,796</td>
<td>1,434,425</td>
<td>6,320,706</td>
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<tr>
<td>1997</td>
<td>1,149,050</td>
<td>1,321,079</td>
<td>1,631,384</td>
<td>1,541,052</td>
<td>5,642,565</td>
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<tr>
<td>1998</td>
<td>1,151,587</td>
<td>1,143,942</td>
<td>1,203,042</td>
<td>1,206,003</td>
<td>4,704,574</td>
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<tr>
<td>1999</td>
<td>1,196,225</td>
<td>1,132,566</td>
<td>1,204,984</td>
<td>1,076,897</td>
<td>4,610,672</td>
</tr>
<tr>
<td>2000</td>
<td>1,018,683</td>
<td>983,330</td>
<td>981,948</td>
<td>973,585</td>
<td>3,975,545</td>
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<tr>
<td>2001</td>
<td>709,177</td>
<td>748,298</td>
<td>628,720</td>
<td>553,060</td>
<td>2,639,256</td>
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<td>2002</td>
<td>620,952</td>
<td>643,432</td>
<td>579,723</td>
<td>E500,000</td>
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<tr>
<td>2003</td>
<td>E400,000</td>
<td>E600,000</td>
<td>E400,000</td>
<td>E600,000</td>
<td>E2,000,000</td>
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<tr>
<td>2004</td>
<td>E600,000</td>
<td>E400,000</td>
<td>588,738</td>
<td>E600,000</td>
<td>2,282,406</td>
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<tr>
<td>2005</td>
<td>709,600</td>
<td>630,053</td>
<td>663,068</td>
<td>686,456</td>
<td>2,689,178</td>
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<td>2006</td>
<td>931,065</td>
<td>894,268</td>
<td>1,083,808</td>
<td>1,196,485</td>
<td>4,105,626</td>
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<tr>
<td>2007</td>
<td>1,162,737</td>
<td>1,119,536</td>
<td>1,075,460</td>
<td>1,175,845</td>
<td>4,533,578</td>
</tr>
<tr>
<td>2008</td>
<td>810,189</td>
<td>1,073,315</td>
<td>980,933</td>
<td>1,037,946</td>
<td>3,902,383</td>
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<tr>
<td>2009</td>
<td>880,036</td>
<td>982,760</td>
<td>956,657</td>
<td>888,905</td>
<td>3,708,358</td>
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<tr>
<td>2010</td>
<td>876,084</td>
<td>1,055,102</td>
<td>1,150,725</td>
<td>1,146,281</td>
<td>4,228,192</td>
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<tr>
<td>2011</td>
<td>1,063,047</td>
<td>1,189,083</td>
<td>846,624</td>
<td>892,013</td>
<td>3,990,767</td>
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<td>2012</td>
<td>1,078,404</td>
<td>1,061,289</td>
<td>1,048,018</td>
<td>957,936</td>
<td>4,145,647</td>
</tr>
<tr>
<td>2013</td>
<td>1,147,031</td>
<td>1,394,232</td>
<td>1,171,278</td>
<td>946,301</td>
<td>4,658,842</td>
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<tr>
<td>2014</td>
<td>1,242,179</td>
<td>1,095,011</td>
<td>1,468,608</td>
<td>1,085,534</td>
<td>4,891,332</td>
</tr>
<tr>
<td>2015</td>
<td>1,154,408</td>
<td>789,980</td>
<td>774,541</td>
<td>585,048</td>
<td>3,303,977</td>
</tr>
</tbody>
</table>

E = Estimated data. P = Preliminary data.

Notes: The reported 4th quarter 2002 production amount was adjusted by rounding to the nearest 100,000 pounds to avoid disclosure of individual company data. This also affects the 2002 annual production. The reported 2003 and 1st, 2nd, and 4th quarter 2004 production amounts were adjusted by rounding to the nearest 200,000 pounds to avoid disclosure of individual company data. The reported 2004 total is the actual production for 2004. Totals may not equal sum of components because of independent rounding.

Table 2. Number of uranium mills and plants producing uranium concentrate in the United States

<table>
<thead>
<tr>
<th>End of</th>
<th>Mills - conventional milling (^1)</th>
<th>Mills - other operations (^2)</th>
<th>In-situ-leach plants (^3)</th>
<th>Byproduct recovery plants (^4)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>1997</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>11</td>
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<tr>
<td>1998</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>9</td>
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<tr>
<td>1999</td>
<td>1</td>
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<td>7</td>
</tr>
<tr>
<td>2000</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2001</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
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<tr>
<td>2002</td>
<td>0</td>
<td>1</td>
<td>2</td>
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<td>3</td>
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<td>2003</td>
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<td>2004</td>
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<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2005</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2006</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2007</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>2008</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>2009</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
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<td>2010</td>
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<td>6</td>
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<td>2013</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>2014</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>4th quarter</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

\(^1\) Milling uranium-bearing ore.
\(^2\) Not milling ore, but producing uranium concentrate from other (non-ore) materials.
\(^3\) Not including in-situ-leach plants that only produced uranium concentrate from restoration.
\(^4\) Uranium concentrate as a byproduct from phosphate production.

Table 3. U.S. uranium mills and heap leach facilities by owner, location, capacity, and operating status

<table>
<thead>
<tr>
<th>Owner</th>
<th>Mill and Heap Leach&lt;sup&gt;1&lt;/sup&gt; Facility name</th>
<th>County, state (existing and planned locations)</th>
<th>Capacity (short tons of ore per day)</th>
<th>Operating status at end of 2014</th>
<th>1st quarter 2015</th>
<th>2nd quarter 2015</th>
<th>3rd quarter 2015</th>
<th>4th quarter 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anfield Resources</td>
<td>Shootaring Canyon Uranium Mill</td>
<td>Garfield, Utah</td>
<td>750</td>
<td>Standby</td>
<td>Standby</td>
<td>Standby</td>
<td>Standby</td>
<td>Standby</td>
</tr>
<tr>
<td>EFR White Mesa LLC</td>
<td>White Mesa Mill</td>
<td>San Juan, Utah</td>
<td>2,000</td>
<td>Operating-Processing Alternate Feed</td>
<td>Operating</td>
<td>Operating-Processing Alternate Feed</td>
<td>Operating-Processing Alternate Feed</td>
<td>Operating-Processing Alternate Feed</td>
</tr>
<tr>
<td>Energy Fuels Wyoming Inc</td>
<td>Sheep Mountain</td>
<td>Fremont, Wyoming</td>
<td>725</td>
<td>Undeveloped</td>
<td>Undeveloped</td>
<td>Undeveloped</td>
<td>Undeveloped</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>Kennecott Uranium Company/Wyoming Coal Resource Company</td>
<td>Sweetwater Uranium Project</td>
<td>Sweetwater, Wyoming</td>
<td>3,000</td>
<td>Standby</td>
<td>Standby</td>
<td>Standby</td>
<td>Standby</td>
<td>Standby</td>
</tr>
<tr>
<td>Pinon Ridge Resources Corporation</td>
<td>Pinon Ridge Mill</td>
<td>Montrose, Colorado</td>
<td>500</td>
<td>Permitted And Licensed</td>
<td>Developing</td>
<td>Developing</td>
<td>Developing</td>
<td>Permitted and Licensed</td>
</tr>
</tbody>
</table>

Total Capacity: 6,975

<sup>1</sup> Heap leach solutions: The separation, or dissolving-out from mined rock, of the soluble uranium constituents by the natural action of percolating a prepared chemical solution through mounded (heaped) rock material. The mounded material usually contains low grade mineralized material and/or waste rock produced from open pit or underground mines. The solutions are collected after percolation is completed and processed to recover the valued components.

Notes: Capacity for 4th Quarter 2015. An operating status of "Operating" indicates the mill usually was producing uranium concentrate at the end of the period.

# Table 4. U.S. uranium in-situ-leach plants by owner, location, capacity, and operating status

<table>
<thead>
<tr>
<th>In-situ-leach plant owner</th>
<th>In-situ-leach plant name</th>
<th>County, state (existing and planned locations)</th>
<th>Production capacity (pounds U3O8 per year)</th>
<th>Operating status at end of</th>
<th>1st quarter 2015</th>
<th>2nd quarter 2015</th>
<th>3rd quarter 2015</th>
<th>4th quarter 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUC LLC</td>
<td>Reno Creek</td>
<td>Campbell, Wyoming</td>
<td>Developing</td>
<td>Developing</td>
<td>Developing</td>
<td>Developing</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
</tr>
<tr>
<td>Azarga Uranium Corp</td>
<td>Dewey Burdock Project</td>
<td>Fall River and Custer, South Dakota</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
</tr>
<tr>
<td>Cameco</td>
<td>Crow Butte Operation</td>
<td>Dawes, Nebraska</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
</tr>
<tr>
<td>Hydro Resources, Inc.</td>
<td>Church Rock</td>
<td>McKinley, New Mexico</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
<td>Partially Permitted And Licensed</td>
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<tr>
<td>Hydro Resources, Inc.</td>
<td>Crownpoint</td>
<td>McKinley, New Mexico</td>
<td>Partially Permitted And Licensed</td>
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<td>Lost Creek ISR LLC</td>
<td>Lost Creek Project</td>
<td>Sweetwater, Wyoming</td>
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<td>Mestena Uranium LLC</td>
<td>Alta Mesa Project</td>
<td>Brooks, Texas</td>
<td>Producing</td>
<td>Producing</td>
<td>Standby</td>
<td>Standby</td>
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<td>Power Resources, Inc.</td>
<td>Smith Ranch-Highland</td>
<td>Converse, Wyoming</td>
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<tr>
<td>South Texas Mining</td>
<td>Hobson ISR Plant</td>
<td>Karnes, Texas</td>
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<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
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<tr>
<td>South Texas Mining</td>
<td>La Palangana</td>
<td>Duval, Texas</td>
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<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
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<tr>
<td>URI, Inc.</td>
<td>Kingsville Dome</td>
<td>Kleberg, Texas</td>
<td>Restoration</td>
<td>Restoration</td>
<td>Restoration</td>
<td>Restoration</td>
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<td>Rosita</td>
<td>Duval, Texas</td>
<td>Restoration</td>
<td>Restoration</td>
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<td>Restoration</td>
<td>Reclamation</td>
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<td>Vasquez</td>
<td>Duval, Texas</td>
<td>Restoration</td>
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</table>
Table 4. U.S. uranium in-situ-leach plants by owner, location, capacity, and operating status (cont.)

<table>
<thead>
<tr>
<th>In-situ-leach plant owner</th>
<th>In-situ-leach plant name</th>
<th>County, state (existing and planned locations)</th>
<th>Production capacity (pounds U₃O₈ per year)</th>
<th>1st quarter 2015</th>
<th>2nd quarter 2015</th>
<th>3rd quarter 2015</th>
<th>4th quarter 2015</th>
<th>Operating status at end of 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranerz Energy Corporation</td>
<td>Nichols Ranch ISR Project</td>
<td>Johnson and Campbell, Wyoming</td>
<td>2,000,000</td>
<td>Producing</td>
<td>Producing</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
</tr>
<tr>
<td>Uranium Energy Corp.</td>
<td>Goliad ISR Uranium Project</td>
<td>Goliad, Texas</td>
<td>1,000,000</td>
<td>Permitted And Licensed</td>
<td>Permitted And Licensed</td>
<td>Permitted And Licensed</td>
<td>Permitted And Licensed</td>
<td>Permitted And Licensed</td>
</tr>
<tr>
<td>Uranium One Americas, Inc.</td>
<td>Jab and Antelope</td>
<td>Sweetwater, Wyoming</td>
<td>2,000,000</td>
<td>Developing</td>
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<td>Campbell, Wyoming</td>
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<td>Permitted And Licensed</td>
<td>Permitted And Licensed</td>
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<td>Uranium One USA, Inc.</td>
<td>Willow Creek Project (Christensen Ranch and Irigaray)</td>
<td>Campbell and Johnson, Wyoming</td>
<td>1,300,000</td>
<td>Operating</td>
<td>Operating</td>
<td>Operating</td>
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</tbody>
</table>

Total Production Capacity: 26,975,000

Notes: Production capacity for 4th Quarter 2015. An operating status of "Operating" indicates the in-situ-leach plant usually was producing uranium concentrate at the end of the period. Hobson ISR Plant processed uranium concentrate that came from La Palangana. Hobson and La Palangana are part of the same project. ISR stands for in-situ recovery. Christensen Ranch and Irigaray are part of the Willow Creek Project. Uranerz Energy has a tolling arrangement with Cameco Resources. Uranium is first processed at the Nichols Ranch plant and then transported to the Smith Ranch-Highland Operation plant for final processing into Uranerz’s uranium concentrate. CPP stands for central processing plant.

Figure 1. Uranium concentrate production in the United States, 1996 – 4th Quarter 2015

pounds U₃O₈

P = Preliminary data.