The background of the slide is a photograph of the TRIGA reactor core, illuminated with a strong blue light. The core is a large, cylindrical structure with various pipes and components visible. The lighting creates a dramatic, high-contrast scene.

## Recent Repairs and Upgrades at the Oregon State University TRIGA Reactor

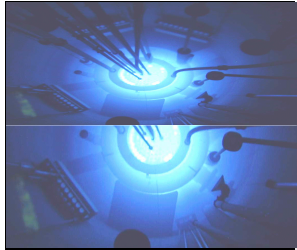
2010 TRTR Conference  
September 20 – 23, 2010  
By S. Todd Keller



# Topics

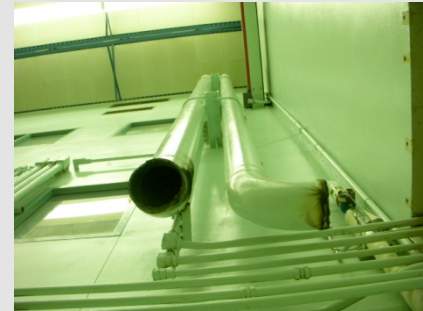
- **Significant Upgrades**
  - Secondary Piping
  - Secondary Pump and Controller
  - Emergency Generator
  - Prompt Gamma / Neutron Depth Profiler Facility
  - Neutron Radiography
  - ANSEL
  - Rod Calibration Timer
  - SCRAM Timer
  - Bridge Crane
  - Perimeter Fence
  - Antimony Production
  - Tank Level Detector
- **Major Repairs**
  - Crane Brushes & Buswork
  - Safety Channel Detector





Upgrades

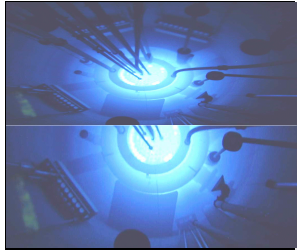
# Secondary Piping



Out with the old...



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Upgrades

# Secondary Piping



... and in with the new

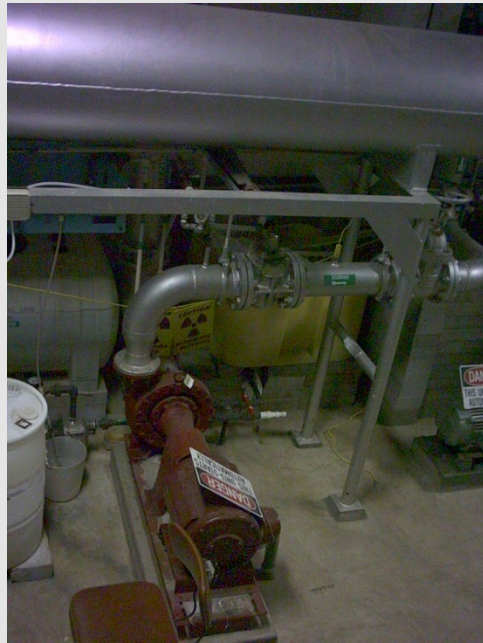


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# Secondary Pump, Controller & HX's

Upgrades



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# Emergency Generator

Upgrades

~~5 KW~~  
~~10 KW~~  
25 KW

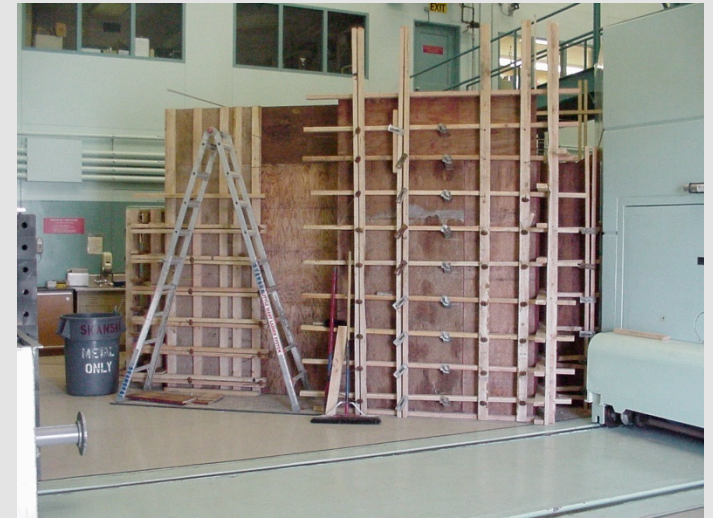
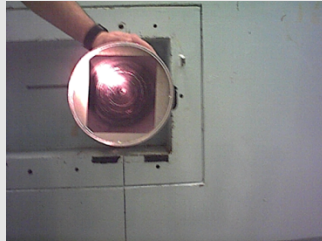


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# Neutron Radiography Facility

Upgrades



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# Neutron Radiography Facility

Upgrades

The \$300,000 Picture



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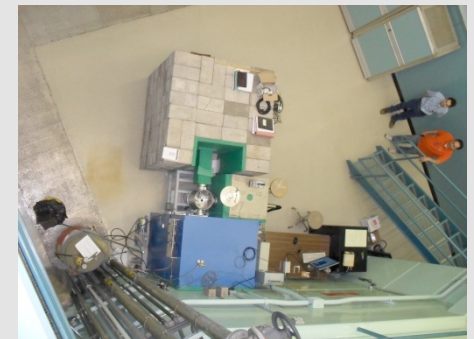
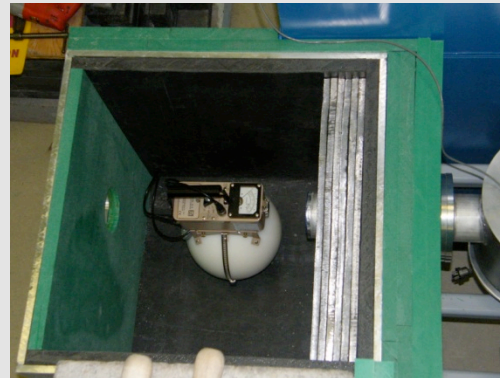


# PGNAA / Neutron Depth Profiler

Upgrades



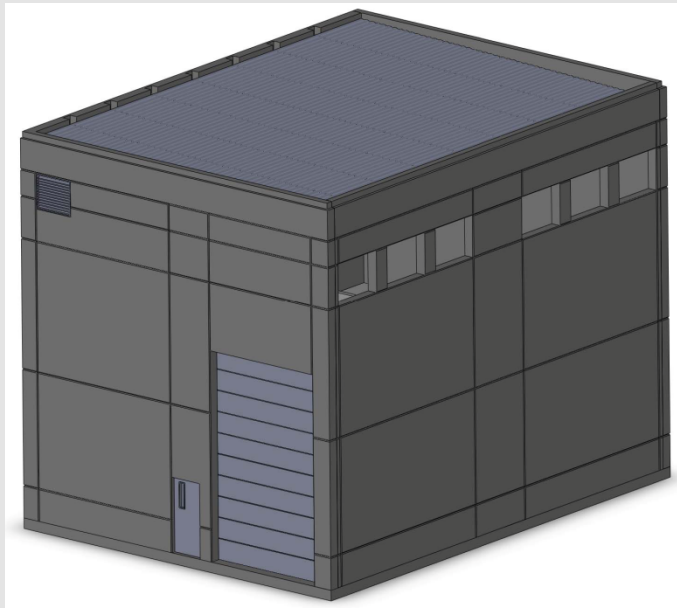
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# Advanced Nuclear Science Engineering Laboratory

Upgrades

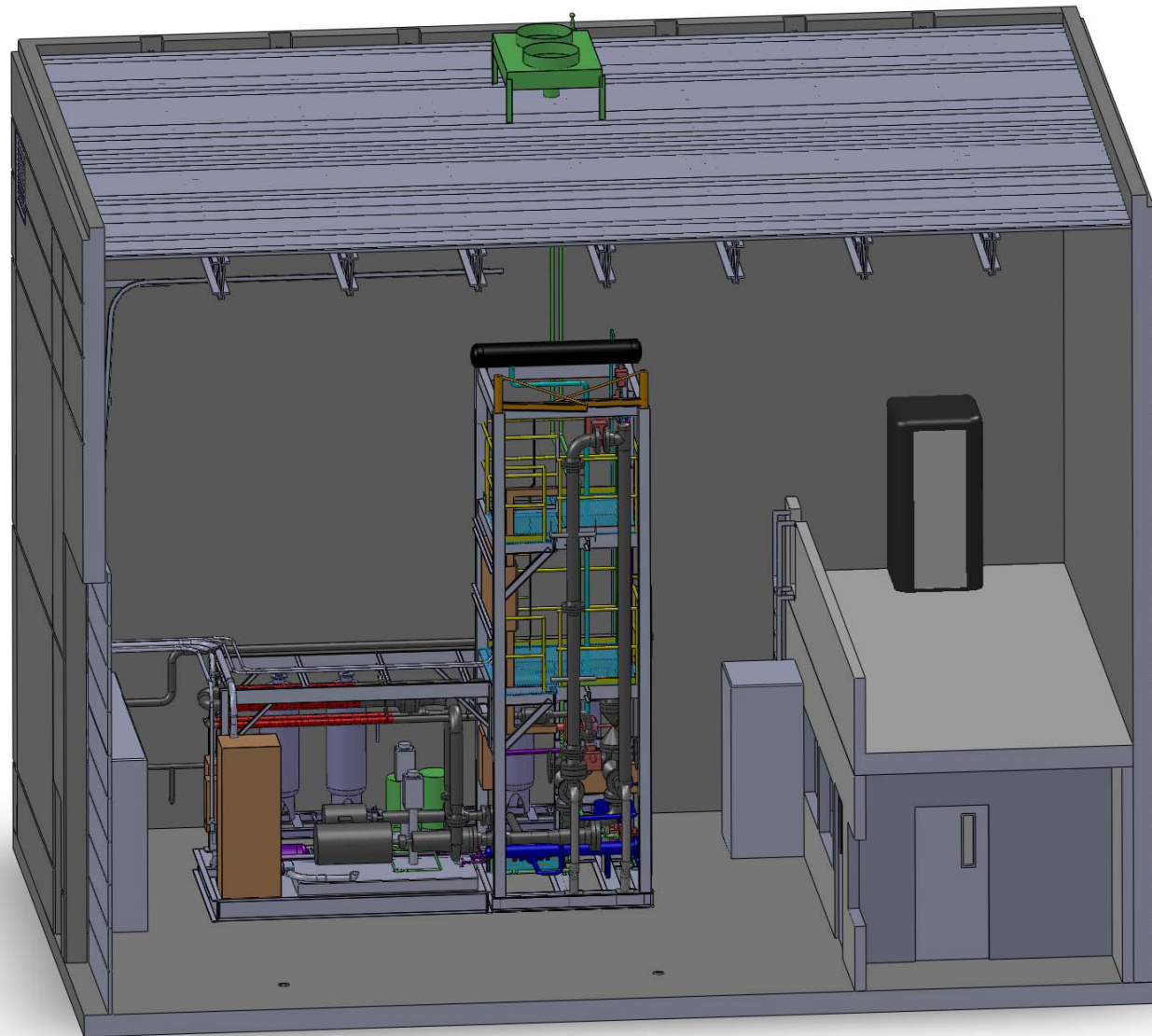
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# Advanced Nuclear Science Engineering Laboratory

Upgrades



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# Rod Cal Timer & SCRAM Timer

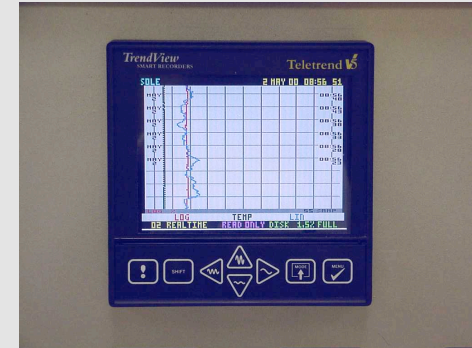
Upgrades



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# Paperless Chart Recorders

Upgrades



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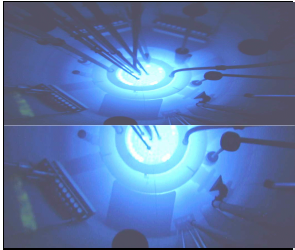
# Bridge Crane

Upgrades

Why is this man smiling?

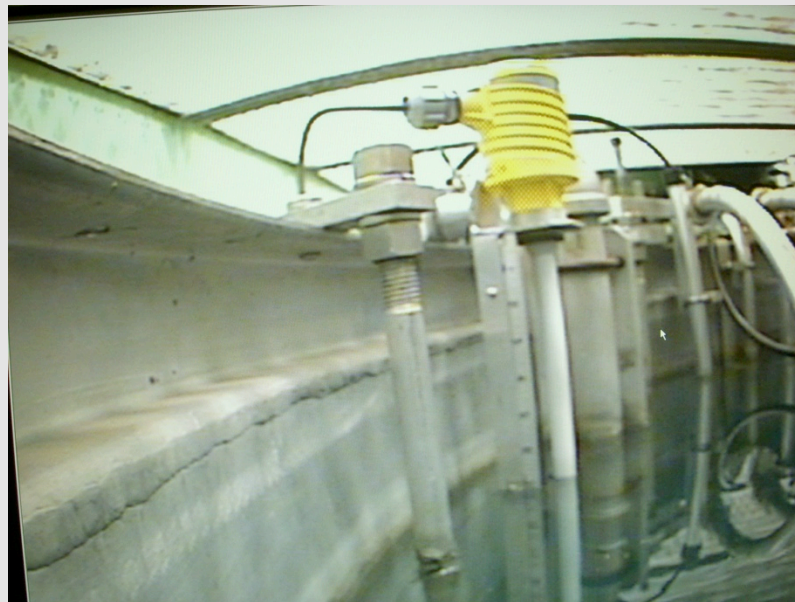


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Upgrades

# Tank Level Detector



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# Perimeter Fence

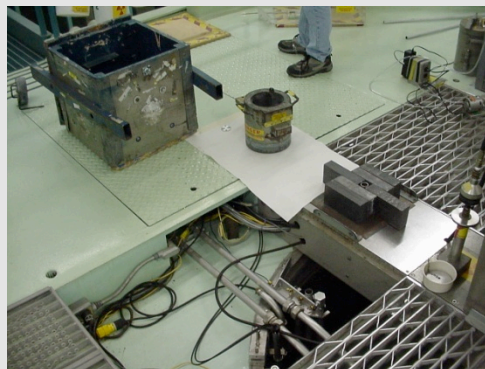
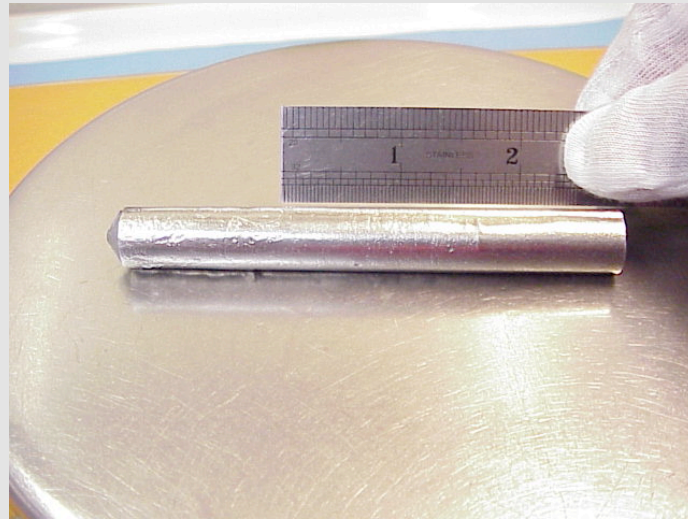
Upgrades



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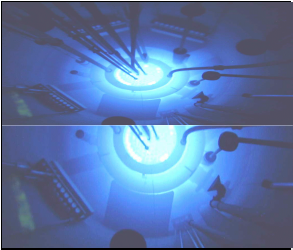
# Antimony Production

Upgrades



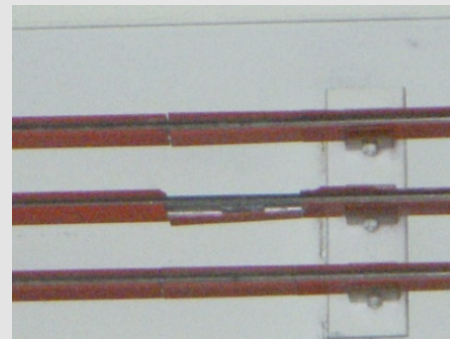
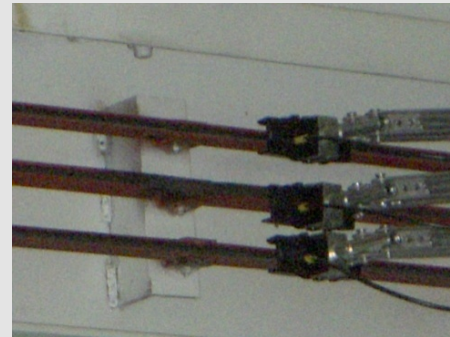
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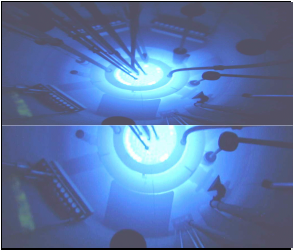


# Crane Bolts, Brushes and Buswork

Repairs



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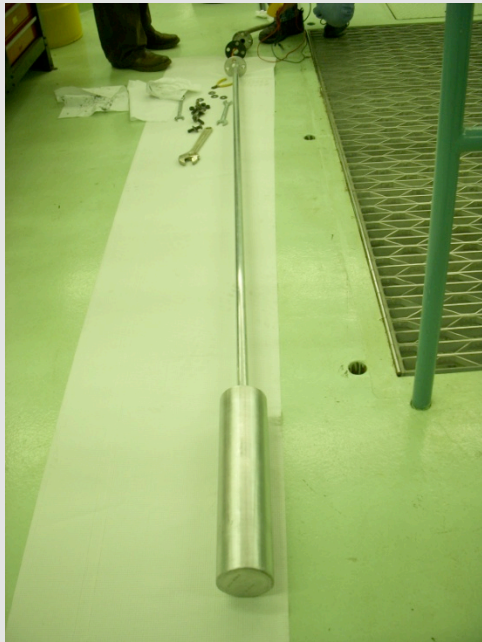


Repairs

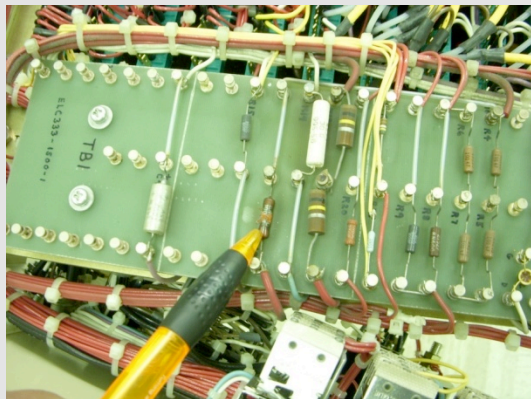
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# Safety Channel Detector

Out with the old...



...and in with the new







Questions?

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