

Hg Jet Update

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MERIT Videoconference

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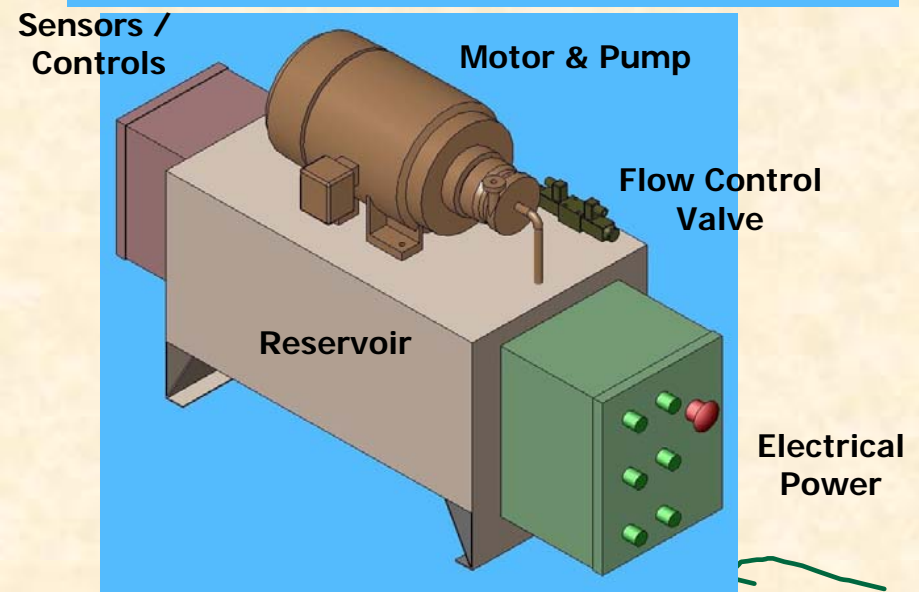
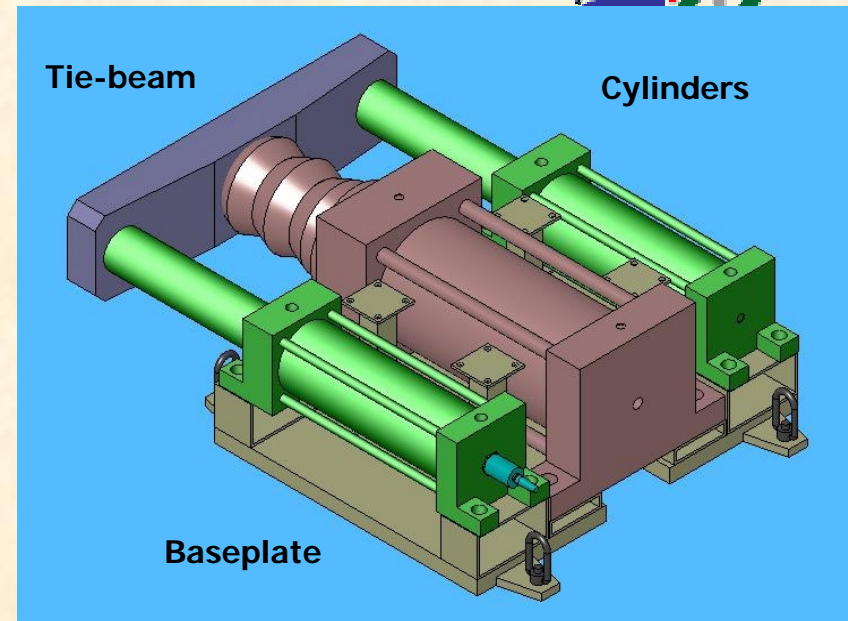
Syringe Design Review Held Jul 26



- **Internal ORNL review of syringe & pump subsystems**
- **Reviewers were ORNL engineers with significant hydraulics experience**
- **Review held to allow procurement of syringe to be initiated ASAP**
 - **BNL procurement with ORNL technical oversight**
- **Expect lead time of 20+ weeks**
- **Estimated cost: \$50K - \$60K**

Syringe Procurement Consists of These Items

- Complete system design based on specified requirements
- Piston pump (inside secondary containment)
 - One 10-inch Hg Pump Cylinder
 - Two 6-inch Drive Cylinders (one with integrated position sensor)
 - Tie beam
 - Baseplate
 - Hydraulic hoses inside secondary for operating Drive Cylinders
- Hydraulic pump (outside secondary containment)
 - Pump, motor, reservoir
 - Proportional, directional control valve
 - Hydraulic hoses between pump & secondary containment
 - Motor controller
 - Variable voltage transformer for U.S. and European operation
- Hydraulic fluid (Quintalubric 888)
- Integration of system components
- System testing without Hg



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System Testing



- **Syringe vendor must demonstrate system operation in prototypic configuration**
 - Eject/intake fluid from same port
 - Gravity-fed inlet with check valve
 - Simulate piping/nozzle pressure drops
- **Must demonstrate**
 - Variable flow control
 - Sensor operation
 - External computer control

Status



- **Comments from reviewers incorporated into procurement specification**
- **Discussions in progress with three potential vendors**
- **Procurement specification to BNL next week**