

CAES Operating Envelope

Ray Grosshans
Program Manager, CAES

October 19, 2009



BOISE STATE
UNIVERSITY



Idaho State University



Idaho National Laboratory

University of Idaho

CAES

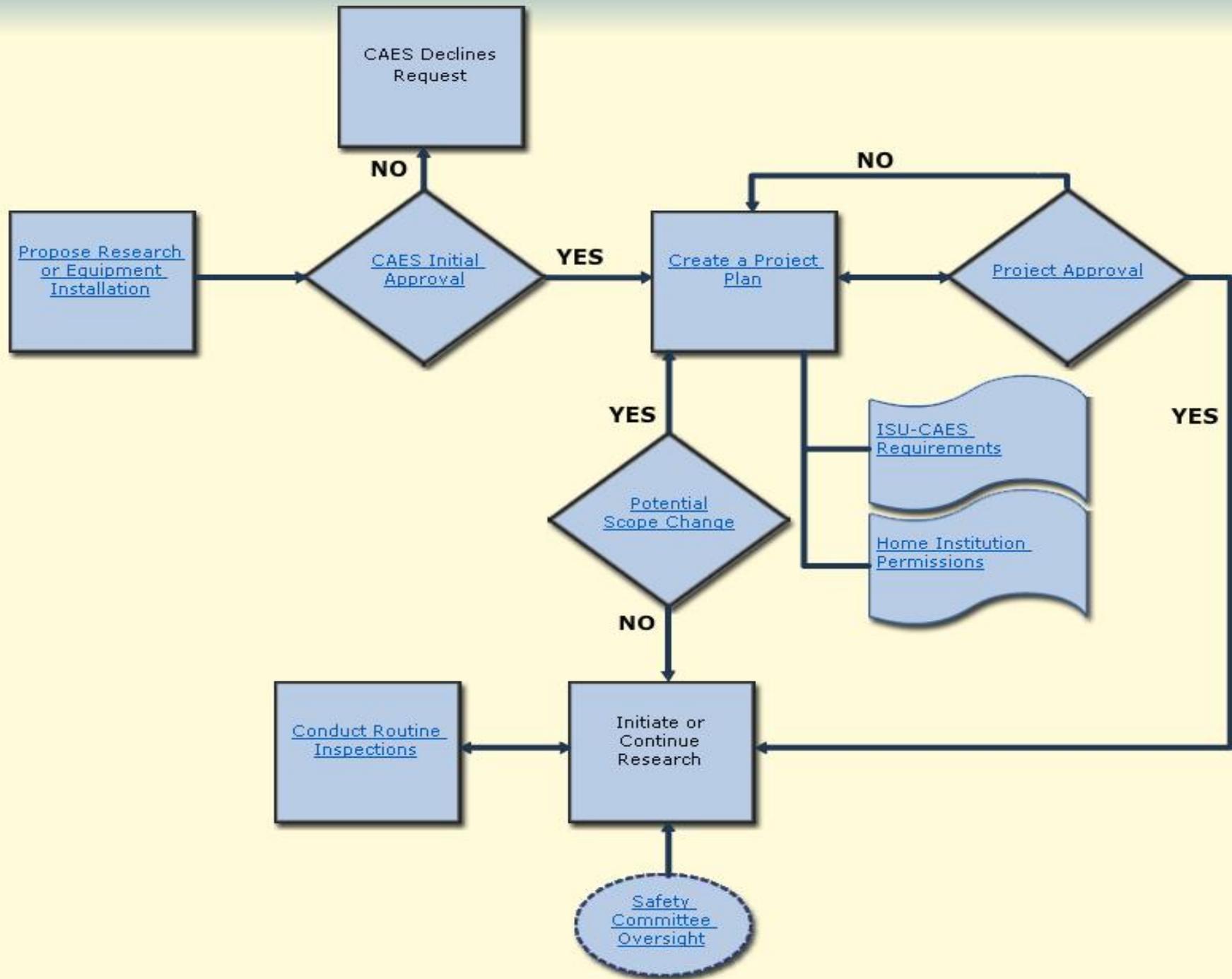
**Center for Advanced
Energy Studies**



Working in CAES

- Navigate to www.caesenergy.org
- Select menu option “Working in CAES”

- **Request a Conference Room**
- **Request a CAES Office**
- **Conduct work in CAES:**
 - i. **Work that requires lab access**
 - ii. **Work that does not require lab access**
- **Propose Equipment Installation in the CAES Research Facility**
- **Request a CAES Access Card**



What's in CAES

Org	Project Title	Initiative	Equipment
ISU/INL	NEUP Graphite	Fluids	Tube furnace
UI	NERI	Fluids	Heat exchanger
UI/INL	High Temperature Fluidization	Fluids	High Temperature Fluidization Furnace
CAES	Support	IRS	Universal milling machine*
CAES	Support	IRS	Engine lathe *
CAES	Support	IRS	Band saw *
CAES	Support	IRS	MIG welding system *
INL	Wireless sensor testing	Other	Wireless sensors, signal processor
ISU	Idaho Space Grant	Other	Spectro-radiometer
CAES	Blackhawk	Other	Blackhawk wind generator
INL	Wind for Schools	Other	Skystream wind generator
INL	Wind for Schools	Other	Weather station
INL	Wind for Schools	Other	Rack mount server
INL	Flash Thermography	Other	Thermographic camera, flash lamp

In the door

Connected

Operating ✓

*ETRP

Center for Advanced Energy Studies



What's in CAES

Org	Project Title	Initiative	Equipment
UI	NERI	Nuclear I&C	PC, ultrasonic velocimeter, oscilloscope, signal processor
BSU	SPSS	Materials	Spark plasma sintering system
BSU	SPSS	Materials	Retsch ball mill
BSU	SPSS	Materials	Carver press
BSU	SPSS	Materials	Mark V cut-off saw
CAES	Materials Processing	Materials	Powder processing glove box *
INL	Crack growth	Materials	Bench top SEM
UI	ODS Weldability	Materials	Pressure resistance welder
CAES	Waste forms	Radiochem	1200°C Box furnace *
CAES	Waste forms	Radiochem	Mettler balance *
CAES	Waste forms	Radiochem	Stirring hot plate *
ISU/INL	LDRD	Radiochem	Aqueous separations glove box
ISU/INL	LDRD	Radiochem	Ultra-violet spectrophotometer
UI	Waste forms	Radiochem.	Molten salt glove box
UI	Oxide Reduction	Radiochem.	Potentiostat

In the door

Connected

Operating ✓

*Procured by CAES

What's in CAES

Item	Lab	Cost (K)
First Aid Kits	All	\$1.5
PPE	All	\$2
Safety Cabinets	All	\$15
Safety test gear	All	\$.2
Electrical	Materials, IRS, Fluids,	\$31
upgrades Misc. connections	Radiochem Materials, Radiochem	\$5
Plumbing hdwr	All	\$1.9
Gas tank carts	All	\$3
Bicycle racks	Outside	\$1.2
Lab gear	Radiochem, Analyt Instrument	\$2
Generator test	Outside	\$18
bed Pallet jack	All	\$.6
Hand tools	IRS support	\$2

CAES
investments in
infrastructure and
hardware to
reduce cost and
complexity for PIs

Working in CAES



- Lessons learned:
 - Early, frank discussions with Lab Lead and CAES team*
 - Review CAES work flow early
 - Review Phase One and Equipment Request forms early
 - Review facility capabilities before purchasing equipment
 - Get three bids

* Charlene Johnson, Todd Gansauge, Ray or Oren