

TENANT USE AGREEMENT

Between

**IDAHO STATE UNIVERSITY,
BOISE STATE UNIVERSITY,
THE UNIVERSITY OF IDAHO,
and
BATTELLE ENERGY ALLIANCE**

for use of the

CENTER FOR ADVANCED ENERGY STUDIES

RESEARCH LABORATORY


February 4, 2009

CENTER FOR ADVANCED ENERGY STUDIES TENANT USE AGREEMENT	Identifier:	CAES-TUA-01	
	Revision:	0	
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APPROVALS

Representatives of the CAES member institutions; Idaho State University, Boise State University, the University of Idaho and Idaho National Laboratory, have negotiated this agreement in good faith to clarify responsibility and authority for activities conducted at the CAES research laboratory. All parties agree to abide by the requirements of this agreement effective upon signing by all parties. Modifications will be mutually agreed upon.

James A. Fletcher, Vice President, Finance and Administration
Idaho State University


_____ 2/5/09
Date

Pamela Crowell, Vice President for Research
Idaho State University


_____ 2/4/09
Date

Mark Rudin, Vice President for Research
Boise State University

Date
Stacy Pearson, Vice President, Finance and Administration
Boise State University

Date
Lloyd Mues, Vice President, Finance and Administration
University of Idaho

Date
Harold Blackman, Director
INL Office of Laboratory Integration

Date


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<p>Pamela Crowell, Vice President for Research Idaho State University</p>	<p>Date</p>
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<p>Mark Rudin, Vice President for Research Boise State University</p> 	<p>Date</p> <p style="text-align: center; font-size: 1.2em;">2/24/09</p>
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<p>Stacy Pearson, Vice President, Finance and Administration Boise State University</p>	<p>Date</p>
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<p>Lloyd Mues, Vice President, Finance and Administration University of Idaho</p>	<p>Date</p>
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<p>Harold Blackman, Director INL Office of Laboratory Integration</p>	<p>Date</p>
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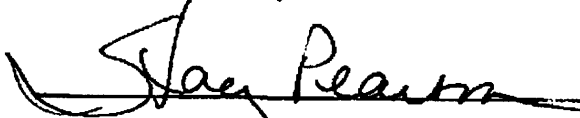
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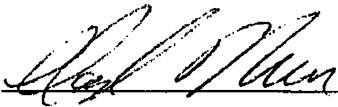
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Lloyd Mues, Vice President, Finance and Administration University of Idaho	Date
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Harold Blackman, Director INL Office of Laboratory Integration	Date
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Harold Blackman

2-4-2009

Date

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1. PURPOSE

The purpose of this Tenant Use Agreement (TUA) is to establish the operational boundaries of responsibility and authority between primary users of the Center for Advanced Energy Studies (CAES) research laboratory, in accordance with terms and conditions of Lease #49377, and to allocate operational maintenance costs. The primary users of CAES include representatives of Idaho State University (ISU), Boise State University (BSU), the University of Idaho (UI) and Battelle Energy Alliance, LLC (BEA) (collectively referred to herein as “Primary Users”).

2. SCOPE

The scope covered by this TUA defines the capabilities and processes that are currently in place within the CAES research laboratory that designates occupant use for this building, the physical attributes that support the defined work scope and mission, the operational boundaries that govern the use of the building, the definition of responsibilities for the delivery of core facility services, and other pertinent matters associated with administration of this TUA.

3. ALLOCATION OF COSTS

Each Primary User shall pay, on a monthly basis, a pro rata share of all actual maintenance and operational costs, as identified in the Appendices attached hereto. Each Primary User’s share of costs shall be based upon each Primary User’s proportional occupancy of the CAES research laboratory, as that may change from time to time. As of the date of this TUA, the Primary Users’ proportional shares are established as follows:

- BEA – 70%
- ISU - 10%
- BSU - 10%
- UI - 10%

Monthly payments shall be based initially on one twelfth (1/12) of the estimated annual costs, set forth on Appendices D, E and F attached hereto and incorporated herein by this reference. Payment is due on the fifth business day of each month, payable in arrears. Subsequent, payments shall be adjusted to reflect actual costs incurred for the previous year. Such adjustments shall be communicated to Primary Users by Lessor within sixty (60) days after the end of Lessor’s fiscal year, June 30. If actual cost incurred was less than estimated costs paid by Primary Users, the difference shall proportionally be applied as a credit against costs incurred in the current year. Any remaining credit balance shall be paid to Primary Users upon termination of the Lease Agreement.

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4. ROLES

4.1. Facility Manager (FM)

ISU's Office of Facilities Services serves as the Facility Manager for the CAES research laboratory. FM will coordinate all maintenance and operating services for CAES.

4.2. CAES Program Office (CPO)

The CAES Program is a collaboration that includes: the State of Idaho through its academic research institutions, Boise State University, Idaho State University, and the University of Idaho; and the Battelle Energy Alliance, which manages the Idaho National Laboratory. The CAES Program Office coordinates all CAES programmatic activities on behalf of the collaboration. The CPO consists of representatives from each of the three Universities and Battelle Energy Alliance. The Director of the INL Office of Laboratory Integration (an employee of Battelle Energy Alliance) serves as the Director of the CPO and is the primary point of contact for CPO responsibilities identified herein. Staffing for the CPO shall be provided by Battelle Energy Alliance

4.3. Project Tenants (Tenant)

CAES delivers innovative, cost-effective, research and promotes energy education, to enhance technical capabilities, and to advance energy science. Researchers, faculty, students and staff from the member institutions, as well as visiting researchers from other institutions, will be housed in the CAES research laboratory as "project tenants" to conduct these research and educational efforts.

4.4. INL Information Technology (IIT)

INL's Information Technology organization (provided through Battelle Energy Alliance) will provide and maintain basic IT services to the CAES research laboratory. These services include: telephone services, networking, firewall management, and workplace support. Appendix D contains the CAES Information Technology Description.

5. RESPONSIBILITIES

This section summarizes the operational responsibilities agreed to between the Primary users of the CAES research laboratory. This agreement implements the applicable requirements of the Primary Users, which are to ensure that the scope of any proposed work activities, and their associated hazards, will not compromise the facility's physical (as-built) capabilities and/or any operational safety limits or controls.

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
Operating Envelope	FM will maintain operating envelope bases including safety analysis documents, permits, allocations, and other limiting documents.	CPO will establish the operating bases for the CAES research laboratory.	Tenant will maintain processes to ensure that planned activities will not result in exceeding any operating limits.
Safety Document Ownership	FM will establish and maintain overarching safety documentation for CAES facility.	CPO will control tenant access to the CAES research laboratory, review all tenant access plans to ensure they are consistent with and within the safety bases of the facility.	Tenant will establish, maintain and implement safety documents for project activities as required, ensuring there are no conflicts with overarching facility safety documentation.
Radiological Materials Control	<p>FM will assign a Radiation Safety Officer (RSO) to perform an inventory and validate radionuclide materials stored in CAES, and provide the necessary disposal and associated information.</p> <p>ISU's RSO will maintain and monitor overall radiological inventories for the CAES consistent with NRC License No. 11-27380-01.</p>	<p>CPO will maintain a radiological inventory for the CAES research facility.</p> <p>The CPO will interface with the RSO and tenants to address radiological inventory issues (order, receive, track) and to monitor and report on chemical inventories.</p>	<p>Tenant will control radiological inventories and provide radiological inventory information to the CPO and the designated RSO.</p> <p>The Tenant will follow guidelines in appropriate ISU procedures concerning the handling, procurement and disposition of radiological materials.</p>

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
Chemical Inventory	<p>ISU will assign a Technical Safety Officer (TSO) to perform an inventory and validate chemical materials stored in CAES, manage disposal of chemicals and associated information.</p> <p>FM will incorporate CAES chemical inventory into ISU's overall chemical inventories.</p> <p>The TSO will interface with the CAES Program Office and tenants to address chemical inventory issues (order, receive, track) and to monitor and report on chemical inventories.</p>	<p>CPO will maintain a chemical inventory for the CAES.</p> <p>The CPO will interface with the TSO and tenants to address chemical inventory issues (order, receive, track) and to monitor and report on chemical inventories.</p>	<p>Tenant will provide chemical inventory information to CPO and designated TSO.</p> <p>Tenant will fund the purchase of all chemicals to be used for programmatic activities and disposal.</p>

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
Facility Modifications	<p>FM will maintain permanent facility equipment.</p> <p>FM will coordinate necessary modifications with the CPO and tenants so as to minimize impact on any CAES activities.</p> <p>If FM activities result in damages or negative impact on tenant systems or equipment, components, fixtures or structures, FM will arrange for repair or restoration to original or improved condition.</p>	<p>CPO will review and approve all tenant facility modification requests and transmit those requests to FM.</p> <p>CPO-approved facility modifications will be coordinated with FM for implementation.</p>	<p>Tenant will request facility modifications through the CPO.</p> <p>Tenants will provide funding for any approved facility modifications.</p> <p>Tenant will facilitate access of FM and CPO personnel as required to complete maintenance activities.</p> <p>If Tenant activities result in damages or negative impact on facility systems or equipment, components, fixtures or structures, Tenant will contact CPO and FM to arrange for repair or restoration to original or improved condition.</p>
Facility Modification and Maintenance Work Control	<p>FM will maintain and approve work control documents for all facility work.</p> <p>All Facilities concerns, whether from CPO, Tenants, BEA, or other will be coordinated through the designated FM contact.</p>	<p>CPO will review and concur with all facility modification and maintenance work control documents.</p> <p>The CPO will interface with the TSO and tenants to address work control issues</p>	<p>Tenant will coordinate with the CPO to ensure work control documents minimize impacts for Tenant activities.</p>

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
Facility Maintenance	<p>FM will provide routine maintenance to CAES research facility (offices, laboratories, common space), grounds and parking lot.</p> <p>Services to be performed include: janitorial services, landscaping services, parking lot maintenance, snow removal, lighting maintenance, carpet maintenance, painting, etc.</p>	<p>CPO will interface with FM and Tenant regarding maintenance services.</p> <p>Special maintenance requests (that are not urgent) and are not part of routine maintenance will be submitted via an ISU Work Order Form.</p>	<p>Tenant will interface with FM and CPO regarding maintenance services.</p> <p>Special maintenance requests (that are not urgent) and are not part of routine maintenance will be submitted via an ISU Work Order Form.</p>
Industrial Wastewater Agreements	<p>FM will maintain sinks and drains, as necessary.</p> <p>FM will maintain and report waste streams per applicable standard.</p>		<p>Tenant will observe procedures, processes and signs and discharge only allowable types and quantities of materials.</p>
Environmental, Safety & Health (ES&H) Support	<p>ISU will provide ES&H professionals to support facility work and other activities and issues such as safety inspections.</p> <p>ISU will request assistance through CPO for ES&H Subject Matter Experts (SMEs) as necessary.</p>	<p>The CPO will interface with the TSO and tenants to address ES&H issues.</p> <p>CPO will control tenant access to the CAES research laboratory, review all tenant access plans to ensure they are consistent with and within the safety bases of the facility.</p>	<p>Tenant will provide ES&H professionals to support their own programmatic activities and issues.</p> <p>Tenant will establish, maintain and implement safety documents for project activities as required, ensuring there are no conflicts with overarching facility safety documentation.</p>

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
Emergency Services	<p>FM will coordinate Emergency Services and Emergency Management procedures.</p> <p>FM will coordinate periodic drills while attempting to minimize the impact of drills to tenant.</p>	The CPO will interface with the TSO and tenants to address Emergency Management issues.	<p>Tenant will support and implement all Emergency Management procedures.</p> <p>Tenant will provide information on programs/activities to the CPO and FM Emergency Management POC's as requested.</p> <p>Tenant will participate in all drills and emergencies per ISU procedures and follow all facility-specific Emergency Management requirements.</p>
Outages	<p>FM will coordinate and inform tenant of planned outages.</p> <p>FM will immediately address unplanned outages and attempt to expeditiously correct their cause(s).</p>	The CPO will interface with the TSO and tenants to address Outage issues.	<p>Tenant will, if needed, request through the CPO a facility outage for programmatic activities and implement controls, work stoppage, or other actions.</p> <p>Tenant will report all unplanned outages to the CPO and the FM.</p>
Routine Inspection and Certification of Safety Equipment	FM will schedule, coordinate, conduct inspections and maintain certifications of safety and mechanical equipment including: fire extinguisher, safety showers, eyewashes, and fume hoods and other local ventilation, fire doors, etc., per periodic requirements.	The CPO will interface with the TSO and tenants to facilitate inspections and address identified issues.	Tenant will facilitate access for IFM and CPO personnel to enter laboratory and equipment in order to perform routine inspections.

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
LockOut/TagOut (LO/TO) and Out of Service (OOS)	FM will manage the LO/TO/OOS process and logs for facility equipment and provide support to the CPO and Tenant, if requested and funded, for the Tenant's programmatic equipment.	The CPO will interface with the TSO and tenants to address LO/TO/OOS issues.	Tenant will manage LO/TO/OOS tags for their own equipment consistent with ISU procedures. Tenant will inform CPO of LO/TO/OOS activities.
Security	ISU will provide security for the CAES research laboratory. FM will ensure that the level of property protection and access control is appropriate for the facility. There will be no areas within CAES that will require a BEA/INL security clearance. FM will issue keys/keycards to CPO approved personnel.	CPO will establish access procedures for the CAES research laboratory. No classified work is permitted within CAES. CPO will review and approve all personnel access requests for CAES. If approved, CPO will submit Tenant names to FM for key/keycard access. CPO will interface with Tenant, FM, and other Security offices as necessary to ensure protection of sensitive programmatic information.	Tenant will request access to CAES through the CPO for all project personnel. Tenant will comply with the facilities Security Plans as same are communicated to Tenant. Tenant will determine necessary security requirements for their programmatic activities. Tenant will provide funding for additional security required by tenant. Tenant will protect sensitive programmatic information.
Excess Equipment	FM will interface with CPO and Tenant and arrange support for excess equipment removal as requested.	CPO will interface with the Tenant to support excess equipment removal.	Tenant will request removal of equipment through the CPO and provide the information and funding needed to complete the disposition.

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
Waste Removal and Recycling	<p>FM will routinely remove standard wastes from the CAES research facility.</p> <p>FM will provide resources to store and remove regulated wastes from CAES.</p>	<p>CPO will interface with the Tenant and FM to address any waste removal issues.</p> <p>CPO will interface with the Tenant and FM to support recycling options.</p> <p>CPO will interface with FM and Tenant to arrange support for disposal of any regulated waste.</p>	<p>Tenant will comply with all waste disposal procedures as communicated to tenant.</p> <p>Tenant will interface with the CPO and FM to support recycling options.</p> <p>Tenant will inform the CPO of any plans to use a material that will become or could generate a regulated waste.</p> <p>Tenant will provide funding and waste-specific information when requesting removal of any regulated wastes.</p>
Assessments/Inspections	<p>FM is responsible for facility-related assessments/inspections. Any concerns identified regarding the Tenant's programmatic activities will be discussed with the CPO.</p> <p>FM will provide copies of facility assessments to the CPO.</p>	<p>CPO will interface with FM and Tenants to ensure resolution of any facility issues arising from assessments/inspections.</p>	<p>Tenant will interface with CPO concerning facility-related assessments and other reviews, as necessary.</p> <p>Tenant is responsible for programmatic self-assessments (and resolution). Any concerns regarding the facility will be discussed with the CPO. Copies of these self-assessments will be provided to the CPO.</p>

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FUNCTIONAL AREA	FACILITY MANAGER (FM)	CAES PROGRAM OFFICE (CPO)	PROJECT TENANT
Event and Issue Reporting	<p>FM will take all necessary immediate actions for personnel assistance and well-being.</p> <p>FM will coordinate all event/issue reporting process and investigation.</p>	<p>CPO will take all necessary immediate actions for personnel assistance and well-being.</p> <p>CPO will report facility or equipment problems within the research laboratory to the FM appropriate.</p> <p>CPO will participate in the event/issue reporting process and investigation.</p> <p>CPO will designate a Laboratory Lead for each laboratory within CAES. The Lab Lead will serve as the Point of Contact for planning, issues and other events.</p>	<p>Tenant will notify immediately the CPO and relevant home institution managers of any concerns, conditions, incidents or injuries.</p> <p>Tenant will report facility or equipment problems within assigned laboratory to the Lab Lead.</p> <p>Tenant will participate in the event/issue reporting process and investigation.</p> <p>Tenant must immediately report any abnormal event to FM and CPO to ensure that any applicable reporting time limits can be met.</p>
Mail Services	U.S. Postal Service will provide mail services directly to/from the CAES research laboratory.	CPO will establish and maintain four mailstops within CAES located at the Business Centers. CPO will make arrangements to distribute mail to these mailstops.	Tenant will comply with the CAES and ISU mail services requirements.

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6. OPERATING ENVELOPE

The facility operating envelope and the associated action levels are defined in Appendix A. Action levels are based either on allowable inventory or level of acceptable safety risk. If action levels are reached, FM and CPO must evaluate and determine if additional controls are needed to operate at new higher inventory/risk levels. A change in any action level will require a formal change to this TUA.

7. GENERAL DESCRIPTION

This section provides the general description of the facility design use, capabilities, and associated documents.

Facility Area, Building number	Idaho State University- Idaho Falls, Building 104
Facility Hazard Classification	Hazard classification will correspond to activities occurring within each control area, which may encompass more than a single lab.
General description	The building is a 55,633 sq. ft. steel-framed, zinc-sided two-story structure on a concrete slab. The building includes offices (researchers, faculty, administrators, technicians, and students), laboratories (material science, fluids, radiochemistry, chemistry, and high performance computer simulations) and support areas (waste storage, data/electrical, shop, and auditorium).
Fire suppression system	Wet Pipe (sprinkler)
Facility Support Utilities/Systems	City of Idaho Falls: Power, Water, Sewer. Intermountain Gas: Natural Gas Idaho National Laboratory: Private Branch Exchange (PBX) telephone system, INET Internet service
Special environmental controls	The CAES research laboratory is a high-performance, energy-efficient, "green building." The Leadership in Energy and Environmental Design (LEED™) criteria developed by the U.S. Green Building Council guided the design of this facility. Building systems are monitored and computer-controlled.
Documents associated with this program	Idaho DEQ Administrative Rules: http://adm.idaho.gov/adminrules/rules/idapa58/58index.htm Idaho Division of Building Safety Rules: http://adm.idaho.gov/adminrules/rules/idapa07/07index.htm

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	<p>Idaho General Safety and Health Standards: http://dbs.idaho.gov/safety_code/</p> <p>Idaho State University Hazardous Waste Management Policies and Procedures Manual: http://www.physics.isu.edu/health-physics/tso/hazman2008complete.pdf</p> <p>Idaho State University Nuclear Regulatory Commission (NRC) License No. 11-27380-01</p>
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Appendix A

Facility Classification Limits

Radiological

The use, storage, and disposal of radiological materials in the CAES research facility are governed by the Idaho State University (ISU) Technical Safety Office (TSO), which administers and provides technical services in support of the ISU radiation protection program. In addition, the TSO provides radiological safety training for all ISU employees, staff, visitors, and students, including custodial staff, public safety officers, and all CAES facility users.

The ISU radiological safety program is regulated by the Nuclear Regulatory Commission (NRC) and the State of Idaho. The ISU Vice President of Academic Affairs is the senior manager responsible for radiation protection of ISU faculty, staff, students and visitors, and appoints a Radiation Safety Committee (RSC) to govern all aspects of radiation protection within the University, including all affiliated research, clinical, instructional and service units utilizing radiation sources in facilities owned or controlled by the University. The Vice President for Academic Affairs also appoints a Radiation Safety Officer (RSO), who must be approved by the NRC to administer the radiation protection program and to provide technical guidance to the RSC and to radiation users. The Radiation Safety Division of the Technical Safety Office (TSO) is the organizational entity that provides the administrative and technical services in support of the radiation protection program.

Activities include the use of radioactive material and radiation generating devices, but the radioactive material inventory may not exceed the threshold quantity values as (individual or sum of the ratios) described in NRC License No. 11-27380-01.

In addition:

- The CAES radiochemistry lab lead will conduct a bi-annual radiological inventory of all radioactive material stored in the CAES facility and compare this inventory to the inventory currently on file in the CAES Chemical Inventory Database and to the threshold quantity values described in NRC License No. 11-27380-01.
- CAES facility users will follow the administrative and technical controls provided by the ISU TSO and other appropriate ISU procedures concerning the handling, procurement and disposition of radiological materials.

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Chemical

Chemical handling at CAES will be coordinated by Idaho State University (ISU) which is governed by environmental laws and regulations including the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), Superfund Amendments and Reauthorization Act (SARA), Clean Water Act (CWA), Clean Air Act (CAA), Emergency Planning and Community Right-to-Know Act (EPCRA), and Idaho General Safety and Health Standards (IGSHS) and regulations implemented by the Idaho Department of Environmental Quality (IDEQ) to protect human health and the environment from improper hazardous waste management practices.

The ISU chemical handling program is administered by the ISU Technical Safety Office (TSO), which also provides technical services to ISU departments that purchase, store, handle, or dispose of any reagents, chemical solutions, chemical mixtures, industrial products, infectious wastes, contaminated rags, or any items containing or contaminated with substances which may be regulated under one or more of the laws or regulations listed above.

Chemical handling policies and procedures are detailed in the Idaho State University Hazardous Waste Management Policies and Procedures Manual, available electronically at:

<http://www.physics.isu.edu/health-physics/tso/hazman2008complete.pdf>.

CAES facility users will follow the administrative and technical controls provided by the ISU TSO and other appropriate ISU procedures concerning the handling, procurement and disposition of chemicals and all hazardous materials. In addition, after meeting the TSO requirements for chemical and hazardous material purchases, CAES facility users will log all such acquisitions in the CAES Chemical Inventory Database and update this database as chemicals are depleted, moved into designated satellite accumulation areas, or transferred to TSO custody for disposal.

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Appendix B

Technical Basis for the CAES, ISU Building 104

1.0 Physical Description of the Building

The building is a two-story structure including offices and analytical laboratories. The CAES building is a 55,633 sq.ft. steel-framed, zinc-sided building on a concrete slab. It houses electrical utilities, plant air and vacuum service systems.

1.1 Facility Design Parameters Limiting Operations

1.1.1 Power Supply and Capacity

There are 2 each 2500 amp main feeds to the building and one 600 Amp emergency generator.

1.1.2 Emergency Power

Limited emergency power is provided to CAES to maintain fire alarms and emergency egress lighting.

1.1.3 HVAC Capacity

Cooling – Heating

Air Handler (AH-1) serves the lab areas, DX cooling - 340,000 BTU/hr,
Natural gas heating - 1,900,000 BTU/hr

Air Handler (AH-2) serves the office areas, DX cooling - 240,000 BTU/hr,
Natural gas heating - 220,000 BTU/hr, office area perimeter is served by
heating water finned tube radiation – (FT-1) 620 BTU/lf, (FT-2) 740
BTU/lf

Roof Top Unit (RTU-1) serves Server Room, DX cooling only – 330,000
BTU/hr

Roof Top Unit (RTU-2) serves Office Elec/Data rooms on second floor,
DX cooling only – 102,000 BTU/hr

Roof Top Unit (RTU-3) serves Office Elec/Data rooms on first floor, DX
cooling only – 102,000 BTU/hr

Heating is provided by two gas fired boilers – 2,000,000 BTU/hr (ea.)

Air Handlers and Roof Top Units are located on the roof.

1.1.4 Compressed Air

Serving the lab areas – 10 HP, 33 SCFM

1.1.5 Steam and Condensate
NA

1.1.6 Potable Water

Potable water is supplied by underground service from the City of Idaho Falls at 61 psig. Nominal pipe size: 4" inch diameter.

Demineralized Water (DI) is supplied from a DI water system to the labs. DI water system is located in Mechanical Room No. 108.

1.1.7 Cooling Water
NA

1.1.8 Manifold Gas Supply and Capacity

Supplied from the Natural Gas meter located on the Northwest corner of the building. Provides natural gas to Labs gas cocks.

1.1.9 Vacuum System

Supplied from the Mechanical Room No.108 located in the North West corner of the building (exterior access only). Nominal pipe size: 1" inch dia.

1.1.10 Fire Protection

Fire water is supplied by underground service from the City of Idaho Falls. Nominal pipe size: 6" inch diameter.

Fire Suppression System – wet pipe. The Fire Suppression System covers the entire building.

1.1.11 Effluent Management and Controls Systems

A complete DDC control system controls the building.

1.1.12 Air and Liquid Sampling and Monitoring

The HVAC systems sample air for CO2 inside the duct near the roof top equipment. There are also smoke detection devices throughout the building and inside the mechanical units. There are also sensors in the radioisotope hoods in the laboratories that alarm in the event the filters become clogged.

1.1.13 Floor Load

The live load capacity for the floors is 125 psf for the laboratories; 80 psf for the offices; and 100 psf for cubicle areas.

1.1.14 Cranes/Hoists/Lifts

NA

1.1.15 Roll-Up Doors

There are two roll doors: one at the north exterior wall at the loading dock, and the second roll door connecting the west wall of the Fluids Laboratory (room 113) with the loading dock.

1.1.16 Hoods

Lab hoods are located in each of the labs listed below. Each chemical fume hood is connected to a HEPA filtered exhaust system. Each Radioisotope hood is connected to a double HEPA stack and then to the main exhaust system. Each Teflon hood has a dedicated exhaust.

	Chemical Fume Hood	Radio Isotope Hood	Teflon Hood
Room 113 – Fluids Laboratory	2	1	0
Room 114 – Hydrogen Room	1	0	0
Room 115 – Instrument Repair Shop	0	0	0
Room 116 – Materials Laboratory	1	2	0
Room 208 – Radiochemistry Laboratory	3	1	1
Room 209 – Analytical Instrumentation Laboratory	1	0	0
Room 210 – Chemistry Laboratory	0	1	1

1.1.17 Exhaust

The CAES building has two exhaust systems, one HEPA filtered exhaust system and one chemical exhaust system. Blowers for both systems are located outside on the north side of the building. Both systems provide exhaust air service for lab hoods located throughout the building. Hoods are connected to one of the two systems depending on the type of activity performed inside the hoods.

1.1.18 Eyewash/Safety Shower

	Eyewash	Safety Shower
Room 113 – Fluids Laboratory	1	1
Room 114 – Hydrogen Room	0	0
Room 115 – Instrument Repair Shop	2	0
Room 116 – Materials Laboratory	2	1
Room 208 – Radiochemistry Laboratory	1	0
Room 209 – Analytical Instrumentation Laboratory	1	0
Room 210 – Chemistry Laboratory	1	0

1.1.19 Radiological Inventory Limits

The Radiochemistry and Materials Laboratories in the CAES building will house radioactive materials in various forms. The radiological inventory will be managed as described in Appendix A.

1.1.20 Confined Space

The office floors within the CAES research laboratory are 15 in. raised floors to provide space for electrical and IT systems.

1.1.21 Deflagration (blowout) Room

The deflagration room is designed to withstand 35 pounds per square inch of pressure.

1.1.22 Auditorium

The CAES auditorium is designed to accommodate 44 chairs at the lecture tables. Fire code limits the room occupancy to no more than 49 people at one time.

1.1.23 Gallery

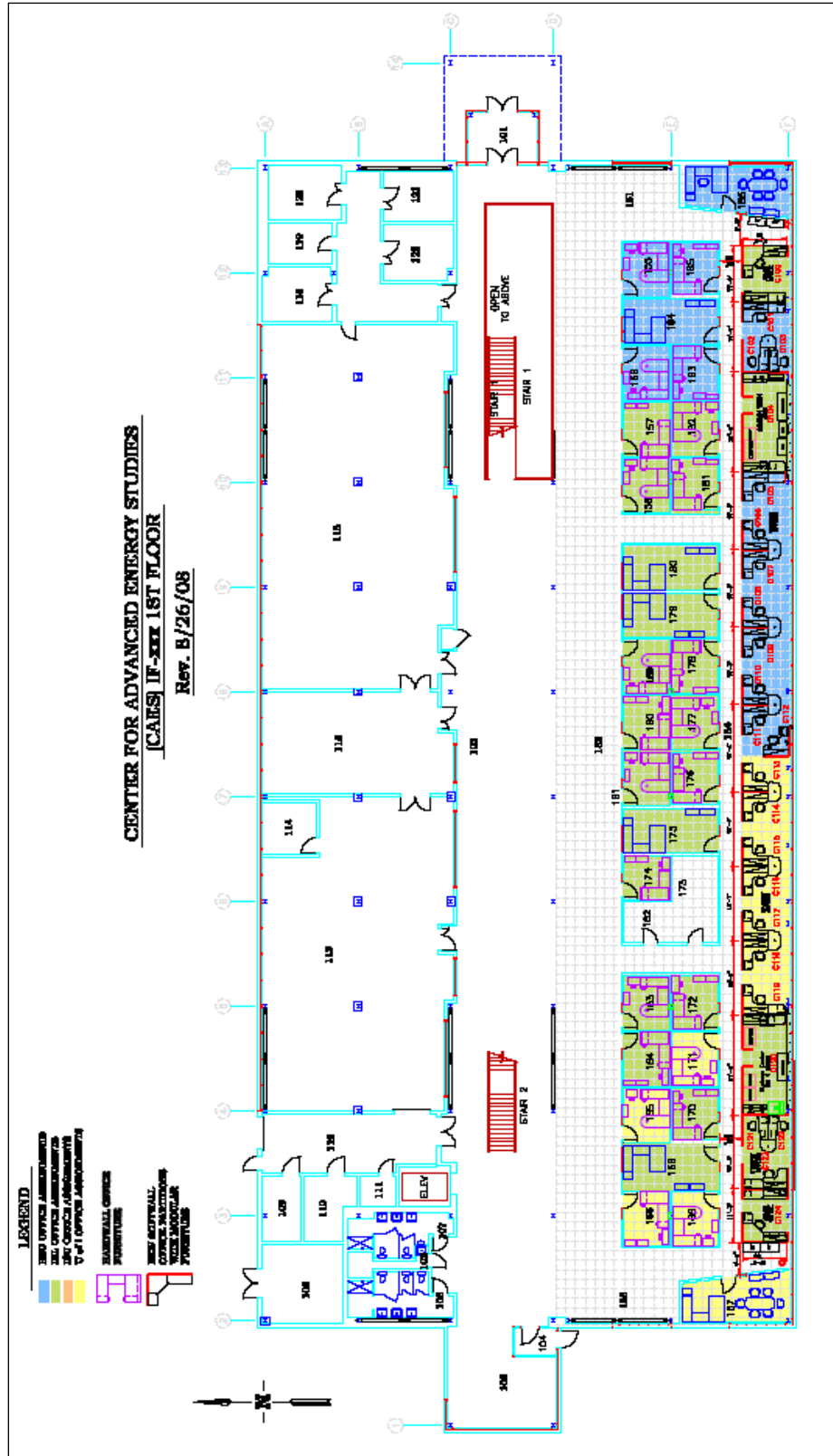
The CAES Gallery is considered a hallway and has no occupancy limitations driven by fire codes. The HVAC limitation for the building is 469 people and – if needed – all those people can occupy the Gallery at one time.

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Appendix C

Floor plans of the CAES, ISU Building 104



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Appendix D

CAES Information Technology Description

1.0 Service Description

1.1 Workplace Support

- Technician Support. INL desk side support for CAES will be provided by the INL IT OpsCenter at 526-1000 and dedicated on-site field technicians. Coordination will be handled through the INL IT ticketing system. The field technician role will also provide coordination with other CAES tenant IT groups for resolution of IT issues not covered under this SLA.
- Anti-virus. All INL employee tenants of CAES will use the standard anti-virus software as established and instituted at the INL. Other tenants of CAES may request a copy of PC-Cillin if they have no other anti-virus software/service for their workstation. Tenants who use PC-Cillin will obtain software and virus pattern software updates directly from the vendor. This service does not cover resolution of a mass virus outbreak. The dedicated field technician will cover resolution of a virus on an individual basis. If more resources are needed to restore operational capability more quickly, these will be negotiated on a time and material basis.
- Patching. All INL employee tenants of CAES will agree to have their workstation managed by INL for systems and software patching. Other tenants of CAES should submit to their sponsoring organization's patching program to ensure their workstation is up to the latest, secure patch level.
- Account Management. A form has been created with which access to INL services or IT services offered by other tenant sponsoring organizations may be requested. CAES tenants who are INL employees request services in the same way whether located at CAES or on-site. They may also use the consolidated form. Other CAES tenants will complete the request form and provide it to the dedicated field technician who will route the request to the appropriate service-providing organization. INL will also create accounts for access to CAES network(s), portal, shared files, and networked printers.

1.2 Hosting

- File/Print Service. The CAES local area network (LAN) will be configured with 4 servers and 6 networked printers. The servers will provide domain control, file/print sharing services, and general purpose virtual machine capability. This service ensures all processes set-up and configured by IT are running properly on the servers (backup, patching, etc.). It also includes the set-up of file shares and printer configurations for network printing within the CAES research laboratory.

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No INL network printers will be provided in the CAES research laboratory. CAES users that are INL employees or authorized to access the INL network, are not allowed to use CAES resources while they are connected (VPN) into the INL network. To utilize the CAES printers, file shares and other CAES network resources, CAES users must first disconnect from the INL VPN.

1.3 Portal Services

- CAES Portal Service. The CAES communities run within the INL Nuclear Collaboration Portal (NCP) established outside the DMZ at the INL. CAES currently has 4 collaboration communities, with the ability to create additional communities on an as-needed basis. The CAES organization provides a Community Manager who manages content and provides user access to the communities. This service provides general administration of the NCP and IT assistance to the CAES Community Manager.

1.4 Network

- CAES LAN. INL IT will manage the CAES local area network. This is the network that will connect desktops, printers, servers, and other networkable peripherals to facilitate efficient communication. This service includes monitoring to ensure it operates properly. It also includes turning on and off ports as necessary. This service also includes the capability of CAES tenants to access the Internet. CAES Internet access will be provided by the Idaho Regional Optical Network (IRON). INL IT will provide first tier support and be the main interface with IRON. Available bandwidth will be 300 Megabits/sec sustained, burstable up to 1 Gigabit.
- Wireless Network. The CAES research laboratory has been installed with a wireless network to allow computing access for the mobile worker. This service includes operations and maintenance of the network to ensure it operates as designed.
- Firewall Management. CAES has been equipped with two firewalls to protect INL resources as well as CAES tenants from malicious cyber threats. INL IT will manage these resources and services. This service includes operations and maintenance on the CAES firewalls and rules to ensure they operate as designed. A firewall policy specific to the two CAES firewalls has been established and changes will be managed through a formal change control process administered by CAES. Once changes are approved, CAES will provide the changes to INL IT and INL IT will implement the changes accordingly.

1.5 Intrusion Detection

- INL IT cyber security services within CAES are limited to operations and maintenance of an Intrusion Detection System (IDS), a Web proxy, and a logging service. The INL Cyber Security group will operate and maintain these systems consistent with INL methods.

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This service includes daily monitoring and response to alerts and reports generated by these systems. Significant emphasis will be placed on resolving and mitigating malware that has been detected. Close coordination with the CAES administrators, the CAES dedicated field technicians and users will be accomplished to mitigate malware. Cyber security issues involving INL staff will be handled via INL policy, processes, and protocols. Any issues involving other CAES tenants will be raised to CAES management and addressed either via the tenant’s sponsoring organization point of contact or directly with the CAES tenant.

1.6 Telephone

- Telephone Service. INL IT will manage the CAES telephony system. The CAES research laboratory has been equipped with a Nortel Voice Over Internet Protocol (VoIP) capability. INL IT will manage the infrastructure resources and services. This service includes operations and maintenance on the telephone system (infrastructure and hand sets) to ensure it operates as designed. Maintenance to the telephony system will be performed one evening per month or as needed to ensure equipment works properly.
- The CAES telephone service includes local, U.S. long distance and international calling capabilities. The INL CAES program, which is an INL collaboration, will be sponsoring the use of INL FTS calling capability for all CAES professional tenants for domestic long distance services covering the 48 continuous states, Alaska, Hawaii and Virgin Islands. A conscious business decision to utilize FTS has been made and approved by the CAES Director per this signed SLA.
- Administrative adds/moves/changes will be initiated by the CAES Program Office. Once CAES approves the changes they are to be forwarded to INL IT for implementation by completing form 320.01, "Office Setup and Personnel Relocation" as per INL’s normal process.
- Telephone directory. INL operators will provide requesters with CAES telephone numbers through the existing methods (dial 0 from an INL phone, 526-0111, or 526-1000 option 0). CAES will provide hardcopy telephone lists on a periodic basis to the INL telephone operators.

2.0 Scope of the INL IT Service (Service Level Agreement)

The scope of the IT service support covers basic IT services for the CAES facility. It specifically excludes IT services provided by any tenant’s sponsoring organization but coordinates access to the service providers for those services. The SLA also excludes services necessary for personnel and equipment moves into and out of the CAES research laboratory. This SLA is based on approximately 100 tenants occupying the CAES research laboratory with around 70% being INL employees.

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Tenant sponsoring organizations will provide their CAES facility residents with the equipment they need to perform their work (including all IT equipment and tier 2+ support of their respective parent IT environment), have an established and effective anti-virus service in use by their sponsored tenants, have an established patching policy and associated service, and have an established security policy. Each tenant in the CAES facility will be responsible for following their sponsoring organization’s policies, any INL policies for CAES residents that use INL resources, as well as any additional policies mandated by the CAES Program Office.

3.0 Service Hours

IT Service hours for the CAES research laboratory are the same as INL service hours. Service hours define the availability of computing resources and support personnel to alleviate service interruptions or to provide general support as defined in section 3.0. Computing resources and network access are intended to be available 24 hours x 7 days per week x 365 days per year. Outside of standard operating hours, the resources are available in an unattended mode. Should the availability be interrupted by some unforeseen circumstance, response to restore service is available per the appropriate method below:

- Standard operating hours are 7:00 a.m. – 4:30 p.m. MT Monday – Friday on the INL 9 X 80’s schedule except INL recognized holidays and Christmas curtailment. During standard operating hours the service desk is staffed with multiple experts across various subject areas.
- Extended operating hours are 6:00 a.m. – 7:00 a.m. and 4:30 p.m. – 11:00 p.m. MT Monday – Friday as well as 6:00 a.m. – 11:00 p.m. on INL off Fridays, Saturdays and Sundays, except INL recognized holidays, and Christmas curtailment. During extended operating hours CAES personnel will contact the INL service desk at 526-1000. During this time, the service desk will attempt to resolve basic issues. For unresolved issues, a service request will be placed to be worked the following day.
- After hours are all hours not covered by standard or extended operating hours, including INL recognized holidays, and Christmas curtailment. The INL IT Duty Phone is covered by IT managers and technical leads, with the intent of providing best effort in resolving incidents or escalating emergencies to back office support.

During standard operating hours, service-impacting issues are targeted to be responded to within 1 hour. Exceptions to this are if the CAES dedicated field technician has to escalate the issue or if there is a wide-spread virus outbreak or some other major service interruption. Issues will be addressed during extended operating hours and after hours on a best effort basis and responding personnel will bill at the current established IT burdened labor rate.

3.0 Service Availability

IT maintenance occurs monthly for patching INL desktops/workstations, file/print servers, network and telephone systems. The third Wednesday of each month will be targeted for these activities;

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however, all IT maintenance activities will be coordinated through the CAES facility administrator. CAES tenants will be notified in advance of maintenance activities as access to resources may be affected during that time. IT's goal is to have the services described in this agreement available 99% of the time, but availability of any IT resources not described in this agreement is according to the service level agreements for those particular services. After hours support for unplanned outages will be resolved on a best effort basis.

4.0 Service Reliability

Service reliability is defined as the availability of IT services that factor in "unplanned maintenance". The file/print servers, network, and telephone service reliability is planned at 99%.

5.0 Customer Support

Requesting fulfillment of a CAES IT service or reporting interruptions to any CAES IT service is accomplished by contacting the INL IT OpsCenter at 526-1000 or by contacting the dedicated field technician. Incidents and requests are escalated by the CAES dedicated field technician when necessary to the appropriate points of contact.

5.1 Targets for incident response

- Within standard operating hours, urgent priority incidents and requests that require escalation will receive a response back to the customer within 2 hours.
- Outside standard operating hours, incidents and requests that require escalation will receive a response based on best effort.

Response is defined as a call to the customer to inform them that the incident is being worked and what the estimated time of completion will be, if available.

5.2 Incident and Request Priorities

- **Priority 1 (Urgent)** – One or more of the following apply
 - Requests and incidents that are business critical and time sensitive.
 - Immediate attention is needed.
 - Many users may be affected.
 - Loss of credibility or significant costs will be incurred if request is not fulfilled.
- **Priority 2 (High)** – One or more of the following apply
 - Individual CAES user is unable to perform necessary work.
 - Fulfillment of the service request will significantly enable the productivity of a small group or individual.
 - Cost avoidance will result from quick resolution.
- **Priority 3 (Medium)** – One or more of the following apply
 - The users can wait for the standard process to be executed for the request to be fulfilled.
 - No valid reason exists for expediting the request.

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- Incident can be resolved by the service desk.
- **Priority 4 (Low)** – One or more of the following apply
 - The request is nothing more than a simple question.
 - Request is easily resolved over the phone without research or additional escalation and dispatching.

6. IT Costs and Charging

IT Service	Description	Cost
Workplace Support	Provides on-site dedicated technician (1500 hours of desk-side support), anti-virus and patching to INL employees located at CAES, coordination with other tenant sponsor IT organizations, desk side support issue resolution, telephone directory service, and account management. Total includes yearly maintenance fees on hardware and software and \$5,000 training for dedicated technician.	\$113,000
CAES Portal	Consultation to community manager, general NCP portal administration.	\$4,800
Hosting	Provides ongoing monitoring, administration, patching, and maintenance of 4 servers. (M&O cost \$34,400, annual maintenance \$1843). Off-CAES-location data contingency storage is on a time and materials basis.	\$36,243
Network	Maintenance and administration of CAES LAN including firewall management. This also includes the maintenance and operations of the CAES Wireless Network. (M&O cost including spares \$54,588, annual maintenance \$4410). External network connectivity annual cost (\$100,000 – INL IT pays \$70,000 while \$30,000 is to be paid by non-INL CAES tenants); currently subcontracted for 36 months.	\$159,408

IT Service	Description	Cost
Intrusion Detection	Monitoring and response to alerts and reports. Resolve and mitigate malware detected by the IDS (M&O cost \$21,325, annual maintenance \$3650)	\$24,975
Telephone	Maintenance, operations, and administration of the CAES telephone infrastructure and equipment. (M&O cost including spares \$31,772, annual maintenance cost \$5500)	\$37,272
Office Moves	Performing the work necessary to reconfigure IT equipment when a move or change is made to an existing IT configuration.	Time and materials based on complexity of change
Total Annual IT Service Cost		\$375,638 (+ office moves / time and materials)

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Appendix E

ISU Facility Operating Expenses

CAES OPERATING EXPENSE-ANNUAL ESTIMATE 2008-2009			
<u>Salaries & Benefits</u>			
Janitorial wages & benefits	\$	71,100	
Maintenance wages & benefits		50,101	
Total Wages & Benefits			\$ 121,201
<u>Supplies & Repairs</u>			
Snow removal		6,000	
R & M Building		8,817	
R & M Land		-	
Grounds equipment		1,075	
Janitorial start-up expense		21,394	
Janitorial		4,086	
Utilities		88,092	
Property Insurance		9,008	
Total Supplies & Repairs			\$ 138,472
Total Annual Operating Expense			\$ 259,673
<u>Expense for 9 months occupancy</u>			
Wages	\$	90,900	
Snow Removal		6,000	
R & M Building		6,613	
R & M Land		-	
Grounds Equipment		1,075	
Janitorial Equipment		21,394	
Janitorial		3,065	
Utilities		66,069	
Property Insurance		9,008	
Total 9 month estimate			\$ 204,124

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Appendix F

Four community business centers will be maintained within CAES for use by the Tenants. The CAES Program Office will coordinate the operation of these centers. The costs for these centers includes: maintenance agreements, paper and consumables.

Initial costs are based on the following assumptions.

1. Office Equipment Maintenance Agreement - Estimated \$20K per year

- a. Approximately 65 people in the building by FY09-Q1; Approximately 90 people in the building by FY09-Q3; average yearly occupancy is 80 people
- b. Average 100 copies/prints/day; 70 color, 30 B&W \$0.085 per color copy/print; \$0.0095 per B&W copy/print.

2. Office Supplies - Estimated \$20K per year

- a. Average occupancy is 80 people
- b. Average 100 copies/prints/day

3. Office Supplies - Estimated \$60K per year

- a. Includes folders, staplers, tape dispensers, pens, pencils, erasers, markers, sticky notes, paper clips, white out, pencil sharpener, engineering pads, writing pads, lab notebooks, hole punchers, paper cutters, scissors, cubicle wall clips, business card holders, etc.
- b. Some items like electric pencil sharpeners and paper punches would be purchased only one for each Business Center.
- c. For the first year only – it would cost approximately \$750 to fully support one person on the average including items to be shared at the Business Centers.

Total Estimated Cost is \$100K.