UNIVERSITY OF KENTUCKY

DRAFT

State of the Environment

2002-03 Annual Report

Prepared for the

Associate Vice President for Campus Services

Presented by the

Environmental Health & Safety Division

and

Committee on Environmental Health and Safety

September 2003

EH&S Environmental Health & Safety

UK Safety begins with YOU!

State of the Environment
University of Kentucky

+ + +

2002-03 Annual Report

Jointly submitted by the
Environmental Health & Safety Division
and the
Committee on Environmental Health and Safety
to
Ken Clevidence
Associate Vice President for Campus Services
on the
XXth day of September 2003
by

Harry G. Enoch, Director Environmental Health & Safety Division	Mark Meier, Chair Committee on Environmental Health and Safety

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Environmental Health & Safety Main Office

Major Accomplishments

1. **Continued to expand web-based delivery of safety training**. EH&S added two new safety courses on the web, continuing the momentum started last year. Response to the online courses continues to be excellent, with 654 trainees using the online courses this year. Overall, EHS trained 34% more people than in 2001-02.

> ★ *EHS has trained over 37,800 people since 1994*

2. **Responded to major anti-terrorism legislation.** In response to new regulations governing the use of select agents, EH&S conducted education sessions for the President's staff, senior administrators, and researchers, and completed an inventory of select agents stored or used on campus. UK registration was submitted to CDC and thirty-three individuals were submitted to the U.S. Attorney General's office for security clearance. Programs were developed for training, security, emergency response, record keeping and others.

New Homeland Security Advisory System

3. **Evaluated potential lead hazards in University housing**. An inventory of university-owned housing in which children could live was compiled. As a pilot project, a comprehensive lead-bsed paint risk assessment was conducted at Cooperstown Apartments, involving testing of 55 units, common areas, and exterior locations frequented by children. No lead hazards were detected in residential units, common areas, or in exterior soils. Additional risk assessments at other locations will be conducted in 2003-04.

Collecting Lead Dust Samples

4. **Improved safety of medical x-ray equipment.** A new medical x-ray safety program was developed to cover all aspects of x-ray operations – shielding design, registration, and safety inspections. In the first year, 97 units were identified and inspected. Improvements in signage, equipment operation, and shielding designs were also completed.

Typical X-ray Unit

5. **Improved and streamlined the radioactive waste storage program**. A new procedure for storing short-lived radiophosphorus without compaction was implemented. The new procedure allows the decayed, nonradioactive residue to be disposed of in campus dumpsters rather than via specialized containers and hauling to a special landfill. The waste reduction is equivalent to two to three drums per month.

★ *New Process Saves $900 - $2,700 per Year*

6. **Reduced the amount of mercury in laboratories**. Efforts this fiscal year resulted in 100 mercury thermometers being replaced with non-mercury alternatives.

Significant Projects

1. **Mercury in Wastewater**. Completed two projects to remove sludge and other mercury contamination from laboratory piping in the Chemistry-Physics Building. The ultimate goal of the project was to reduce the concentration of mercury in wastewater leaving the building. Follow-up testing is being conducted to evaluate the effectiveness of the cleanup efforts.

Wastewater from Chemistry-Physics

2. **Radiation Monitoring Badges**. Use of radiation monitoring badges was reviewed, and thirty-three work groups were identified for possible elimination from monitoring. Ultimately, a 20% reduction in the number of monitored employees is expected, resulting in cost savings in excess of $5,000 per year.

★ *UK uses over 10,000 radiaton badges each year*

3. **Flammable Liquids in Laboratories**. Explored enhancements of UK's policies for storage of flammable liquids. Afer receiving input from the Environmental Health & Safety and Chemical Safety Committees, the effort was refocused on compliance with the existing policies. Laboratory inspection protocols have been modified and new procedures for reporting noncompliance were developed.

4. **Former Chemical Disposal Sites**. Conducted groundwater monitoring at a former chemical disposal site located on Spindletop Farm. The site was one of four identified on the North Farms and the last to be investigated.

Installation of Monitoring Well

5. **Fire Safety**. Worked with the Lexington Fire Department to evaluate response plans for each UK building. As a result, a revised campus map showing sprinkler systems was created and given to the fire department. Also worked with Residence Life office to provide fire safety information to resident students.

★ *There were 38 fires on campus last year*

6. **Information Technology**. Developed applications for handheld devices to assist with data input in the field, with an initial focus on laboratory inspections. In addition, standardized all EH&S databases and phased out multiple, noncompatible formats, as well as creating and standardizing a formal design for EH&S web pages.

Regulatory Activities

1. New Spill Prevention Control & Countermeasure Plans required by the Clean Water Act were prepared and delivered to the Physical Plant Division, Medical Center Physical Plant Division, Food Services Division, and College of Agriculture.

2. Following passage of the amended Minger Bill, fire alarm reports are now completed on line and automatically sent to the State Fire Marshal.

> ★ *There were 578 fire alarms in 2002-03*

3. As a result of new anti-bioterrorism legislation and to meet growing safety needs of the research community, a new Biosafety Officer position was created within EH&S.

> ★ *There are 275 research protocols involving biohazards the IBC database*

4. A joint state/federal hazardous waste inspection occurred in July 2002. Violations related to labeling and container handling were recorded in some laboratories. No violations were observed during a follow-up inspection later that month. No fine was issued.

Key Indicators for EH&S

The numbers and costs below are provided to give an indication of the level of activity within EH&S units when conducting their day to day business.

Biosafety Office

Research protocols approved	30
Approved research protocols in database	275
Biosafety cabinet certifications reviewed	40
Contact hours (total):	567
IBC Registrations	250
Biosafety	120
Laboratory audits	80
Training and presentations	117

Environmental Protection

Asbestos and lead samples analyzed (cost)	399 ($11,715)
Asbestos abatement projects	111
Asbestos abatement costs	$633,500
Asbestos and lead awareness class attendees	229
Other environmental sampling (air, water, soil, etc.)	1,521
Groundwater Protection Plan inspections	19
Environmental remediation costs	$251,180

Hazardous Materials Management

Hazardous waste generators	311
Pounds of waste shipped	157,359
Waste disposal cost (total UK)	$107,809
Waste containers picked up	6,991
Fluorescent bulbs recycled	17,272
Batteries recycled	1,495
Hazardous waste/IATA class attendees	565
Incidents/releases responded to	21
Biohazard and rDNA proposals reviewed	54
Number of biosafety cabinets inspected	31
Glass bottles/good chemicals recycled	1,504

Occupational Health and Safety

Research laboratories in the Chemical Hygiene database	1,565
Laboratories inspected	1,248
Fume hoods tested	1,109
Indoor air quality investigations	25
Training class attendance (total):	3,339
Chemical Hygiene Plan/Laboratory Safety	1,393
Hazard Communication	61
Hot Work Permitting	71
Respiratory Protection	137
Bloodborne Pathogens	31
Ergonomics	30
15 Passenger Van Driver Safety Awareness	45
New Employee Orientation (EH&S Section)	1,270
SuperVISION (EH&S Section)	288

Radiation Safety

Authorized users (laboratories)	208 (269)
Radionuclide purchases, cost (millicuries)	$947,131 (180,997)
Radionuclide orders received	2,051
Laboratory inspections/surveys	1,653
X-ray machines inspected	105
Sealed source leak tests	268
Radiation instruments calibrated	226
Patient therapies (Brachytherapy)	39
Patient therapies (Thyroid)	74
Radiation safety class participants	505
Personnel monitoring – film badges, etc.	12,173
Level I ALARA reports	52
Level II ALARA reports	17
Waste disposal cost	$103,017
Dry solid, long-lived, radioactive (cu. ft. shipped)	181
Dry solid, short-lived, decayed (cu. ft. disposed)	375
Liquid (cu. ft. shipped)	81

University Fire Marshal

Fire extinguishers inspected	6,378
Fire extinguishers serviced	64
New fire extinguishers purchased	400
Fire extinguisher/fire prevention training attendees	2,172
Fire alarms	578
Actual fires	38
Plan reviews of new construction/renovation projects	161

Hazardous Waste
Cost and Quantity Trend Reports

Total UK Regulated Waste Disposal

Fiscal Year	Disposal Cost ($)
1984-85	12,000
1985-86	12,000
1986-87	32,000
1987-88	141,000
1988-89	112,000
1989-90	124,000
1990-91	221,000
1991-92	275,000
1992-93	329,000
1993-94	298,949
1994-95	317,803
1995-96	294,644
1996-97	317,591
1997-98	254,932
1998-99	226,506
1999-00	95,668
2000-01	99,226
2001-02	119,938
2002-03	107,809

Note: Figure for 2001-02 includes $15,392 for disposal of contaminated soil from Barker Hall.

Source: Year-ending FRS Account Statement for Hazardous Materials Management and Disposal of Wastes

Hazardous Waste Disposal Per Calendar Year (in Pounds)

Calendar Year	Campus	CAER	North Farms	Animal Diagnostics	Other
1981	23,186				
1982	21,292				
1983	22,160				
1984	56,660				
1985	63,352				
1986	57,933				
1987	467,713[1]				
1988	83,186[2]				
1989	82,221				
1990	89,354	1,668			7,869[3]
1991	140,623				8,109[3]
1992	197,640	18,088		667	
1993	111,531	4,170		1,438	2,400[4]
1994	114,483	2,711		3,373	183,620[4]
1995	175,543	2,463		1,252	
1996	113,222	1,476		2,701	
1997	146,812	25,650	6,646	4,374	
1998	109,558	2,085	7,776	5,084	
1999	76,875	4,949	500	4,400	
2000	98,926	3,434	1,900	4,401	
2001	427,162[5]	3,407		4,551	
2002	121,531	2,926	800	3,200	

1 Includes 365,576 pounds of waste from the South Farm cleanup project

2 Includes 16,847 pounds of waste from the South Farm cleanup project

3 Waste from the Peterson Service Building

4 Waste from Robinson Forest

5 Includes 345,800 pounds of waste from the Barker Hall cleanup project

Source: Hazardous Waste Annual Reports filed with the Kentucky Natural Resources and Environmental Protection Cabinet

Radioactive Waste
Cost Trend Report

Fiscal Year	Cost*
1992-93	$134,300
1993-94	90,200
1994-95	8,000
1995-96	71,400
1996-97	29,500
1997-98	46,400
1998-99	21,100
1999-00	109,700
2000-01	44,700
2001-02	55,104
2002-03	103,107

** Excluding mixed radioactive-hazardous waste.*

Source: Year-ending FRS Account Statement for Radiation Safety Waste Disposal

Injury and Illness Trend Report

Employee injuries and illnesses are reported to UK Worker's Care via Form IA-1. Occupational Health & Safety reviews all Form IA-1's in determining whether an injury/illness meets OSHA's recordable injury/illness criteria.

The incident rate is based on OSHA recordable injuries and illnesses per 100 employees. The current (2001 Bureau of Labor Statistics) incident rate for education services – colleges and universities is 3.1. This does not include education services with a hospital or health care facility. The incident rate calculations for 2002 follow the procedures used by the Bureau of Labor Statistics in the past. However, OSHA has significantly changed its recording requirements regarding reportable accidents and the maximum number of lost days recorded.

OSHA Data (Calendar Year)

Metric	2002	2001	2000	1999
OSHA recordable injuries	546	399	349	458
Injuries involving lost work days	141	111	130	161
ThNumber of days lost	5772	4,645	3,232	2,906
Injuries involving restricted work days	188	101	96	167
Number of restricted work days	6438	5,048	5,671	4,898
Fatalities	0	0	0	2
Incident rate	6.77	4.6	3.7	3.2

- Incident Rate = The number of injuries/illnesses related to a common exposure base of 100 full-time workers
- 16,120,122 total man hours worked for 2002 by 10,113 employees (full time, part time, temporary & students)
- 200,000 = base for 100 full-time equivalent workers (number is a constant for this calculation)

$$\text{Incident rate} = \frac{\text{No. of injuries and illnesses}}{\text{Total man-hours worked}} \times 200{,}000 = \frac{546}{16{,}120{,}122} \times 200{,}000 = 6.77$$

Worker's Care Data (Fiscal Year)

Metric	2002-03	2001- 02	2000 - 01	1999 - 00
All employee injuries reported to Worker's Care	1106	1063	1099	1130

Major Types of Injuries	2002-03	2001 - 02	2000 - 01	1999 - 00
Bruise/Contusion/Hematoma	185	169	138	149
Cut/Puncture/Laceration	306	329	309	337
Exposure to blood/body fluids	42	57	55	68
Exposure to TB	126	15	30	49
Exposure to Unknown Virus	8	15	93	9
Sprain/Strain	282	295	270	305
Carpal Tunnel	8	4	11	17

Major Causes of Injuries	2002-03	2001 - 02	2000 - 01	1999 - 00
Needlesticks	112	182	180	199
Contact with Airborne Virus	18	10	104	57
Contact with Sharp Object (non-needle)	88	125	88	116
Slips/Trips/Falls	147	146	132	138
Struck by Object	70	96	106	75
Repetitive Motion	36	23	35	24
Lifting	120	96	117	144
Pushing/Pulling	67	77	45	57

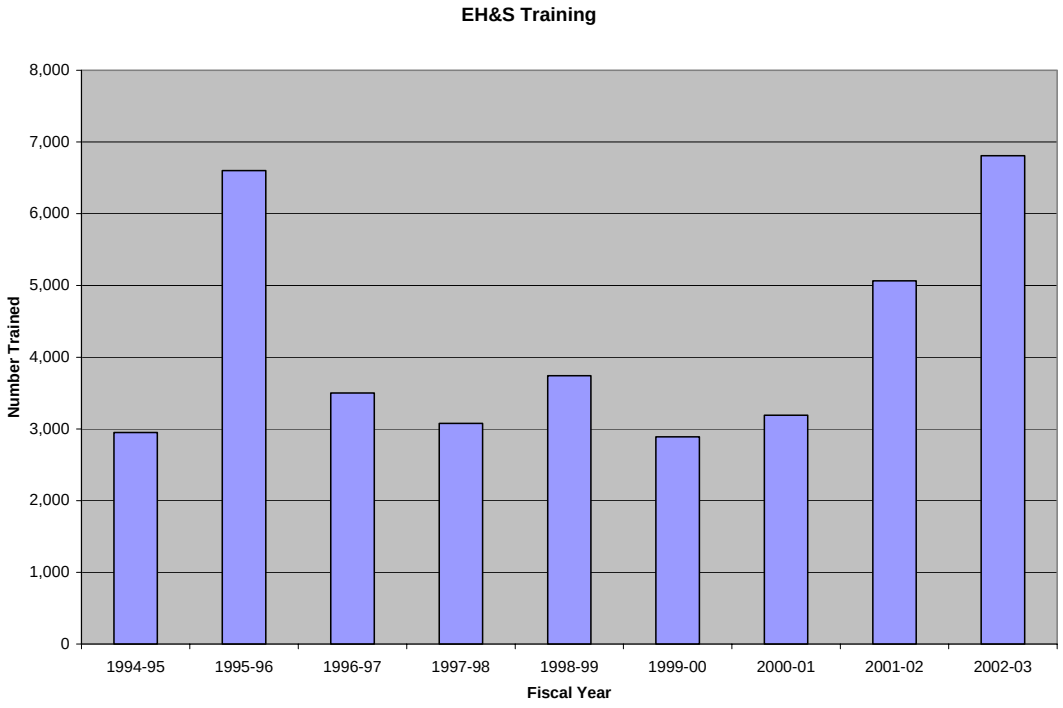
Parts of the body	2002-03	2001- 02	2000 - 01	1999 - 00
Back	136	126	119	171
Eyes	68	73	68	58
Finger	235	277	270	306
Hand	69	77	89	103

Environmental Remediation Cost History

Pristine, OH Superfund Settlement (1990)	$236,609
Administration Building Lead Cleanup (1990)	$29,660
Jet Fuel Release (1990 – 1994)	$63,500
Agriculture Motor Pool UST Cleanup (1990 – 1997)	$22,866
UST-related Remediation Projects (1990 – 2000)	$155,474
Seymour, IN Superfund Settlement (1991)	$4,917
Robinson Forest Cleanup (1994 – 1995)	$829,981
Maxey Flats, KY Superfund Settlement (1995)	$124,320
Barker Hall Firing Range Lead Cleanup (1995)	$15,590
South Farm Tract A Soil Excavation (1996)	$37,152
North Farm Chemical Disposal Sites Remediation (1996 – Present)	$310,483
Carnahan House USTs Cleanup (1996 – 1997)	$50,973
Reynolds #2 PCB Spill (1997)	$68,500
PPD Pole Yard PCB Spill (1997)	$14,662
Closure of Hazardous Waste Storage Facilities (1998)	$55,205
Central Heating Plant USTs Cleanup (1998 – 2000)	$28,993
Haggin Hall PCB Spill (1999)	$5,900
Chemistry-Physics Mercury Remediation (1999 – Present)	$259,165
Closure of College of Ag USTs (2000)	$84,297
Barker Hall Firing Range Soil Removal (2000 – 2001)	$103,940
Arboretum Hydraulic Oil Spill (2001)	$2,500
Student Center PCB Spill (2001)	$1,200
Reynolds #1 Oil Spill (2001)	$375
CAER Diesel Spill (2001)	$1,600
Maine Chance Farm Diesel Spill (2002)	$4,100
Nutter Fieldhouse Oil Dumping (2002)	$1,835
Main Building Mercury Release (2003)	$13,193
Manhole E-408/University Hospital Cleanout (2003)	$9,810
Total	**$2,536,800**

EH&S Training Efforts

Fiscal Year	# Trained
1994-95	2,950
1995-96	6,600
1996-97	3,500
1997-98	3,076
1998-99	3,742
1999-00	2,888
2000-01	3,193
2001-02	5,066
2002-03	6,810
Total	**37,825**



Cost of Enforcement Actions
Since 1990

The figures below include penalties imposed on the University as part of state and federal enforcement actions. They do not include the costs of corrective actions or environmental remediation.

	1990	
US EPA	PCB violations, Lex Campus	$27,250
US EPA	PCB violations, Med Center	$48,250
	1991	
KY Div. of Water	Jet fuel release	$1,330
	1992	
KY Div. of Waste Mgmt.	Hazardous waste violations	$20,000
	1993	
KY Div. of Waste Mgmt.	Hazardous waste violations	$5,000
	1995	
KY Labor Cabinet (KOSH)	Asbestos violation, Admin Building	$500
KY Div. for Air Quality	Incinerator violation, Med Center	$5,000
	1996	
KY Div. for Air Quality	Asbestos violation, Central Htg Plant	$12,500
KY Labor Cabinet (KOSH)	OSHA violations, Central Htg Plant	$18,000
US EPA	PCB violations, Lex Campus	$22,597*
	1997	
KY Div. of Waste Mgmt.	Hazardous waste violations	$25,000
	1998	
KY Labor Cabinet (KOSH)	Asbestos violation, Taylor Ed Building	$5,625
	1999	
KY Div. of Waste Mgmt.	UST violations, Med Center	$1,500
	Total	**$192,552**

* Includes a penalty payment of $3,600 and a Supplemental Environmental Project of $18,997 (for removal of a PCB transformer at Gillis Building).

Report of the
Biosafety Department

Annual report for Biological Safety Department: February – July, 2003.

I. Institutional Biosafety Committee (IBC)

1. Improved efficiency of Institutional Biosafety Committee, augmenting compliance to NIH Guidelines in all segments of the University of Kentucky research community

- Reduced average time between new protocol submission and full approval by 40%
- Met with each principal investigator and advised them at every step of the approval process
- Worked with researchers from
  - College of Agriculture: Horticulture, Plant Pathology, Entomology
  - Kentucky Tobacco Research and Development Center
  - Medical Center: Neurology, Oral Health Science, Neurosurgery, Microbiology and Immunology, Ophthalmology, General Surgery, Pharmacology, Pathology, Physiology, Pediatrics
  - Biology Department
  - Chemistry Department
  - Civil Engineering
- Processed an average of five new protocols per month
- Developed database of IBC registrations
  - 275 approved protocols in database
  - facilitates compliance to three year IBC review requirements
  - increases cooperation with other compliance committees
- Conducted training for IBC members
  - brought in experts pertinent to protocols under consideration
  - Federal regulations and compliance issues
  - personal protective equipment
  - policies and practices at comparable universities

II. Biological Safety

1. Expanded the professional expertise of the department
- NIH sponsored conference on Institutional Biosafety Committees
- Control of Biohazards Course
- Biocontainment Design Colloquium
- Biological Safety Officer (BSO) sat for Certified Biological Safety Professional certification exam
- Met with experts from various disciplines, institutions, and from industry to determine containment standards for blue mold, West Nile Virus, and general transgenic plant containment facilities and procedures
- Increased networking within the larger biosafety community

2. Developed and performed laboratory biosafety audit process to further compliance with Federal regulations and laws
   - Audits incorporate the standards for laboratory safety, microbiological/biomedical research practices, and facility requirements from:
     - National Institute of Health (NIH) Guidelines for Recombinant DNA Research
     - Occupational Safety and Health Act (OSHA)
     - Centers for Disease Control (CDC)
   - Principal investigator (PI) meets BSO in laboratory, explains research, safety procedures
   - Every protocol considered by IBC had laboratory facilities and procedures audited
     - 30 audits performed February 1 – July 1, 2003

3. Advised researchers and department chairs
   - On compliance issues
   - On new CDC standards for working with emerging infectious agents
     - Biology
     - Entomology
     - Livestock Disease Diagnostic Center
   - On implementation of the transgenic plant containment guidelines from United States Department of Agriculture (USDA)
     - College of Agriculture
     - Kentucky Tobacco Research and Development Center
   - Cooperative partnerships that cross academic and institutional lines
   - Enhance consistency and cooperation in the application of Federal standards

III. Training

1. Developed and presented specific safety training and advice for biologists dealing with emerging infectious disease (West Nile Virus)

2. Created presentation on the Institutional Biosafety Committee (IBC) and conducted training sessions to increase communication and cooperation between the research compliance committees at the University
     - Office of Sponsored Projects Administration (OSPA)
     - Office of Research Integrity (ORI)
     - Clinical Research Organization (UKCRO)

IV. Professional Affiliations: Marcia Finucane, Biological Safety Officer
   - Member of American Society for Microbiology
   - Member of American Biological Safety Association
   - Registered Medical Technologist, American Society for Clinical Pathology

Key indicators for Biological Safety:

I. Institutional Biosafety Committee				Total
	IBC protocols approved: February – July, 2003			30
		New protocols	20	
		Renewal or modification	10	
	Approved protocols in database			275
II. Biosafety				
	Biological safety cabinet certification: February – July, 2003			
		Verified certification current		30
		Expired certification		10
III. Contact hours				
	With investigators on IBC registrations			
		Per new protocol	10 hours	200 hours
		Modification per protocol	5 hours	50 hours
	On biosafety			
		Laboratory audits	2 hours	60 hours
		Follow up audits	1 hour	20 hours
		Facility consultations		40 hours
		Other consultations		80 hours
	Training Activities: preparation and presentations			
		About IBC		17 hours
		Biosafety topics		10 hours
		Professional development for BSO		90 hours

Report of the
Environmental Protection Department

ENVIRONMENTAL PROTECTION

Annual Report

FY 02-03

Accomplishments and Major Events

1. In order to comply with EPA oil spill regulations and the Clean Water Act, Spill Prevention Control & Countermeasure Plans were completed for the Physical Plant Division, Medical Center Physical Plant Divison, College of Agriculture, and Food Services Division. The plans identify ways to prevent and/or respond to oil spills.

2. Groundwater monitoring was initiated in July 2002 at a former chemical disposal site located on Spindletop Farm. The site was one of four identified on the North Farms and was the last of the four to have been investigated. Closure of the North Farms project is anticipated in 2003-04.

3. In an ongoing effort to remove mercury contamination, acid waste piping throughout the Chemistry-Physics Building was cleaned out in July/August 2002. A second project to clean out acid waste piping located under the basement floor slab was completed in May/June 2003. Monitoring will be conducted in 2003-04 to evaluate the effectiveness of the line cleaning projects.

4. A lead-based paint risk assessment was completed at the Cooperstown Apartments in May 2003. With the exception of one storage room, no lead hazards were detected. Additional lead-based paint risk assessments will be performed in other University-owned housing in 2003-04.

5. A diesel fuel spill occurred at Maine Chance Farm in July 2002 caused by a truck fuel tank being punctured. Approximately 28 cubic yards of contaminated soil were removed for disposal following the incident.

6. In June 2003, the state's UST Branch granted closure on a project related to the removal of an underground generator fuel tank from the Nutter Football Training Center that did not meet current standards.

7. The discovery of waste oil dumped into an underground electrical vault at the Nutter Fieldhouse was made in September 2002. The oil was removed from the vault, which was subsequently decontaminated so that Physical Plant Division personnel could make entry for electrical work.

8. Sludge contaminated with diesel fuel and mercury was discovered during March 2003 in a manhole located in the former ambulance area at the University Hospital. The sludge was removed from the manhole for proper disposal.

9. Mercury was released from plumbing lines in January 2003 during reconstruction of the Administration Building. Absorbent material was applied and impacted soils were excavated for disposal. Confirmatory sampling revealed that the mercury was successfully removed.

10. Monitoring conducted by the LFUCG's Division of Sanitary Sewers indicated that mercury concentrations in the wastewater discharge from the College of Agriculture campus were above acceptable limits. In October 2002, the University was ordered to develop a corrective action plan and compliance schedule to bring the mercurywastewater discharge into compliance by December 2003. Under the University's plan, which was approved in December 2002, lab practices were evaluated, sink and fume hood traps were screened and cleaned, and wastewater monitoring was conducted. Work is expected to continue in 2003-04.

11. Monitoring conducted by the LFUCG's Division of Sanitary Sewers indicated that mercury concentrations in the wastewater discharge from the Medical Center were above acceptable limits. In October 2002, the University was ordered to develop a corrective action plan and compliance schedule to bring the mercurywastewater discharge into compliance by June 2004. Under the University's plan, which was approved in November 2002, lab practices were evaluated, sink and fume hood traps were screened and cleaned, and wastewater monitoring was conducted. Work is expected to continue in 2003-04.

12. Improper disturbance and/or removal of known or presumed asbestos-containing materials took place at several locations (listed below). Both contractor and UK personnel were involved. Although the circumstances vary, in each case an investigation was performed and remedial measures including, but not limited to, cleanup, additional education, and awareness, were provided.

    - Blazer Hall (disturbance of asbestos fire doors)
    - College of Fine Arts (disturbance of floor tile during renovation)
    - Kastle Hall (disassembly and attempted disposal of a fume hood)
    - Main Building (disturbance of underground steam lines and failure to report damage)
    - Chemistry-Physics Building (damage to heat exchanger during repair work)

Key Indicators/Routine Functions

- Over **122** Service Center projects
- Asbestos abatement project activity (including pre-abatement testing and air monitoring) - approximately **111** projects totaling approximately **$633,500**
- Sampling for asbestos and lead-based paint – **399** samples (**$11,715** survey/testing cost)
- Other environmental sampling (air, radon, water, soil, waste, etc.) – **1,521** samples
- Monitoring compliance of underground storage tank leak detection methods
- Property visits - demolitions, Real Property acquisitions, selected leased property
- Training (asbestos and lead awareness) – **229** people
- Groundwater Protection Plan inspections – **19** locations
- Environmental remediation costs - **$251,180**

Pending Projects (FY 03-04)

- Fayette County Farms – complete groundwater monitoring at Site #3 (fourth of four sites) and negotiate closure with KDWM for all four sites
  benefit: environmental protection; regulatory compliance

- Emergency Planning – implement the four Spill Prevention Control and Countermeasure Plans for the Lexington campus and provide training for affected employees
  benefit: compliance with regulations; environmental protection

- Risk Assessment – continue to evaluate lead-based paint hazards in University housing
  benefit: regulatory compliance; liability reduction

- Training – identify ways to improve EHS training programs
  benefit: compliance with regulations; safety; worker awareness

- Wastewater – continue oversight of the implementation of the Lexington Campus' and Medical Center's plans to reduce mercury in wastewater discharges
  benefit: hazard and liability reduction; regulatory compliance

- PCB transformer removals - EH&S oversight
  benefit: hazard source reduction; removal of regulatory risk

- UST Removals – EH&S assistance and oversight on closure of remaining unregulated USTs and assistance with operation of regulated USTs still in service
  benefit: compliance with regulations; environmental protection; liability reduction

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Employee Development

Tommy Taylor completed the first installment of the College Business Management Institute in August 2002.

Woody Bottom completed 9 hours of graduate credit while working on an MPH degree.

Woody Bottom was a guest lecturer in PM 770 (Seminar in Preventive Medicine & Environmental Health).

Memberships/Societies: ASTM, ASSE, APPA (Woody Bottom)

Accreditations: Asbestos Inspector / Management Planner (Tommy Taylor)
Lead-based Paint Inspector / Risk Assessor (Tommy Taylor)
Registered Professional Geologist (Woody Bottom)
Asbestos Inspector / Management Planner (Woody Bottom)
Lead-based Paint Inspector / Risk Assessor (Woody Bottom)

Program Improvements (over time)

- UST removals - 112 tanks originally, now reduced to 18
- PCB transformers - 58 units in 1984, now reduced to 1 (5 more in reclassification)
- Asbestos - over 250 buildings surveyed
- Asbestos - asbestos awareness training for maintenance & housekeeping personnel
- Asbestos - improved signage in mechanical rooms (high hazard areas)
- Lead-based paint – All childcare facilities surveyed for lead risks
- Lead-based paint – Risk assessments completed or underway in University housing
- Radon - over 250 buildings tested and 10 mitigation systems installed

Report of the
Hazardous Materials Management Department

Hazardous Materials Management
Annual Report July 1, 2002 – June 30, 2003

HAZARDOUS WASTE

HAZARDOUS WASTE GENERATORS 311

POUNDS OF WASTE SHIPPED

Campus Total	150,322 lbs.
Administration Hg	4,620 lbs.
Dentistry Acid Dilution Pit	5,921 lbs.
Campus Total Minus Admin. & Dentistry	139,781 lbs.
Animal Diagnostic Total	4,200 lbs.
CAER Total	2,837 lbs.

BIOHAZARD LBS. SHIPPED 6,007 lbs.

WASTE DISPOSAL COST

	Amount
Total Cost of Waste	$ 79,712.83
Total without cost saving measures	$101,417.73
Savings using new disposal company, treatments, recycling, etc.	$ 21,704.90

WASTE CONTAINERS PICKED UP 6,991

MOBILE DENTAL UNIT HG/AMALGAM DISPOSAL ~110 GAL. /YEAR

RECYCLING

	Amount	Cost
FLUORESCENT BULBS RECYCLED	17,272	$29,677.77
BATTERY DISPOSAL	38,418	$1,085.00
BATTERIES RECYCLED	1,495	
• Recycled to staff, faculty and students	684	
• Lead acid recycled to Interstate Batteries	811	
• Savings by recycling lead acid batteries		$3,162
GLASS BOTTLES RECYCLED	1,455	
GOOD CHEMICALS RECYCLED	49	

CLASSES PRESENTED

HAZARDOUS WASTE CLASSES ATTENDEES	208
ONLINE HAZARDOUS WASTE PARTICIPANTS	284
DOT/IATA CLASS ATTENDEES	65
DOT/IATA CLASS FOR LOCAL AREA MICROBIOLOGISTS	8

HAZARDOUS MATERIALS INCIDENTS/RELEASES	21

INSPECTIONS (STATE/FEDERAL)

State and federal joint inspection occurred on July 15 & 16, 2002. The following violations were noted: NOV's were listed for labeling and/or container violations in some laboratories. On 7/24/02 the state conducted a follow-up inspection to ensure compliance. They visited Tobacco & Health and found no violations. No fines were issued.

BIOHAZARD/ rDNA PROPOSALS REVIEWED	54
BIOLOGICAL SAFETY CABINET INSPECTIONS	31

FEDERAL ANTI-TERRORISM LEGISLATION

- educated deans, directors, chairs and PIs
- appointed an RO and ARO
- conducted an inventory of agents in UK possession
- collected data on individuals and agents
- submitted registration to CDC including names of all people with access to SAs, agents, locations and other information
- developed programs for training, security, emergency response, record keeping and a laboratory inspection form
- purchased and installed locks on equipment use for storage and use of SAs for PIs
- purchased a fire proof safe for safety and security of SA documents

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TREATMENT

	Amount	Savings
ACID/BASES NEUTRALIZED	5,905.5 lbs.	$3,948.00
OXIDIZERS REDUCED	384.5 lbs.	$800.00

	Amount	Savings
CYLINDER PROGRAM	40	$9,000.00

- Cylinders are treated at the EQMC facility and then cut in half and disposed of as scrap metal.

MAJOR ACCOMPLISHMENTS FOR 2002-2003

PICKED UP 2,004 MORE WASTE CONTAINERS THAN IN 2002-2003

LABORATORY MOVES 29

Moved hazardous chemicals for labs relocating to new buildings.
This includes the following departments:

Agronomy
Clinical Laboratory Sciences
Plant Pathology
Nutritional Sciences

LABORATORY HAZARDOUS WASTE INSPECTIONS FROM 5/28/03-6/30/03

Building Name	# of Labs Inspected	# of Violations
Ag North	17	1
Chem/Phys.	31	9
Dimock	7	3
Garrigus	11	4
Gluck	15	3
Regulatory Services	4	1

THERMOMETER EXCHANGE PROGRAM	Amount	Cost
• Replaced mercury bearing thermometers for environmentally friendly versions. (Received 100 mercury thermometers in exchange for 40.)	40	$1,029.00

IDENTIFIED AND ELIMINATED POTENTIAL PAINT CONTAMINATION OF TOWN BRANCH VIA THE STORM SEWERS.

IN ACCORDANCE WITH CFR 73, IDENTIFIED SELECT AGENT USERS AND REGISTERED THE UNIVERSITY FOR USE WITH SELECT AGENTS.

WASTE DISPOSAL SAVINGS

• Number of Drums	84
• Cost per Drum using EEI (old way)	$109.07
• Cost per Drum using Heritage (new way)	$52.00
• Total Cost Savings	$4,794.00

Reduced cost by using vacuum truck instead of shipping bulk drums.

LAB CLEAN OUTS

AGN205 – Perry
P/U Dates 4/30/03
58 Items

AGS304 & AGS322 - Ghabrial
P/U Dates 4/14/03
75 Items

AGN203 – Bush
P/U Dates 6/23/03
310 Items

AGN221W - Chappell
P/U Dates 6/30/03
89 Items

HSRB334 – Jones
P/U Dates 5/21/03
54 Items

HSRB350 - Lehmler
P/U Dates 3/4/03
159 Items

FOR219 & FOR220 – Patel *****
P/U Dates 12/3/02
465 Items

FH207 & FH208 – Glauert
P/U Dates 3/11/03
50 Items

RS3112, RS3123 & RS3210 - Steinman
P/U Dates 3/24/03, 3/25/03, 6/19/03
68 Items

Lab cleanout of Forestry Room 219 & 220.

CONFERENCES/WORKSHOPS ATTENDED BY HMM STAFF

Mike Blackard, Brian Butler, Lee Faulkner and Kevin Gaff - 5th Annual Kentucky Environmental Permitting & Reporting Conference
All HMM staff - Haz-Wopper 8 hour Refresher Course
Mike Blackard – Weapons of Mass Destruction Threat Assessment Training
Lee Faulkner & Mike Blackard – CHMM National Conference
Lee Faulkner and Mike Blackard – Certified Hazardous Materials Managers
Lee Faulkner and Mike Blackard – Members of the Institute of Hazardous Materials Management
Lee Faulkner and Mike Blackard – Members of the Academy of Hazardous Materials Management
Mike Blackard – Public service presentation of DOT/IATA training class for local area microbiologists.
Peggy Quisenberry – Second Annual Institutional Biosafety Committee Roundtable

Report of the
Occupational Health and Safety Department

FY 2002 – 2003 Work Plan
Occupational Health and Safety

1. Develop and administer eyewash/safety shower training. Initially targeting workgroups within Pharmacy, Combs, Garrigus and Ag Sci Ctr North. Schedule to be developed for training all other affected workgroups at UK.

   Computer-based training module developed and delivered to IT for web application.

2. Establish an online Bloodborne Pathogens training program

   Computer-based training module developed and currently being utilized by customers.

3. Establish an online Hazard Communication training program

   Computer-based training module developed and currently being utilized by customers.

4. Update Standard Policy for Solvents in Laboratories to comply with KBC

   Presented suggested enhancements of existing policy to Environmental Health & Safety and Chemical Safety Committees. Input obtained resulting in a refocus initiative on compliance with existing policy. Four areas found to be in noncompliance with existing policy. Variance solicited and obtained from Department of Housing, Building and Construction Division of Building Code Enforcement to recognize current policy (based on NFPA 45) for enforcement purposes. Policy requirements incorporated into existing laboratory inspection program to identify and notify customers of noncompliance with policy.

5. Continue effort in identifying, contacting, and providing departments with the required OH&S training. To include but not be limited to CHP/Lab Safety, Hazard Communication, Bloodborne Pathogens (Finding #4 of Periodic Unit Review of EH&S)

   Continued with targeted training initiative in identifying units in need of required Chemical Hygiene Plan/Laboratory Safety training. Completed training for all affected staff within Department of Agronomy and Plant Pathology. Conducted additional training sessions within Department of Chemistry. A total of 86 employees and/or students were trained in these departments.

   Additional focus placed on organic chemistry students and TAs. Total of 827 students/TAs trained.

6. Partner with PPD in development of unit specific Hot Work procedures for all affected units

   Identified affected units. Developed unit specific procedures and trained all employees within plumbing, heating & cooling, sheet metal and building operator units.

7. Integrate PDA use into lab inspection/classification/fume hood survey activity. Requires development of associated database for interface and data retention.

   Project team developed consisting OHS and IT. Conceptual design of PDA interface and associated computer databases is in progress.

8. Evaluate 4-H student programs for fire prevention and general safety (will coordinate with FM)

   Conducted joint inspection with FM of the Feltner 4H Camp. Identified 7 safety issues. Issued report to camp contact with findings and recommendations for abatement.

9. Develop a schedule and integrate PDA use to conduct safety surveys of all areas excluding those that are or have potential for chemicals to be utilized on a small scale for research or teaching. Requires development of associated database for interface and data retention.

   Project team developed consisting of OHS and IT. Conceptual design of PDA interface and associated computer databases is in progress. This objective is being pursued in conjunction with objective #7.

Occupational Health & Safety Team

Additional Accomplishments/Events

01JUL02 – 30JUN03

1. Developed a 15-passenger van driver safety awareness program. A total of 3 units have been trained which includes a total of 45 employees/students.

2. Developed a 15-passenger van section on the OHS webpage to provide customers with current safety information on hazards associated with operation of these vans. Additionally created a fact sheet to promote hazard awareness and provide information on applicable university policies.

3. Partnered with Environmental Protection Department in identifying improper disposal of waste chemicals into sanitary sewer system within Chemistry/Physics Building.

4. Sustained partnership with the School of Public Health to allow students practical experience in industrial hygiene exposure monitoring. Program integrated into existing OHS Team projects in expanding OHS services provided to customers.

5. Performed smoke challenges in accordance with established departmental chemical fume hood certification procedures on 14 chemical fume hoods within 5 different buildings. Resulted in identification of 4 hoods not functioning properly. Additionally, one building identified to have potential for re-entrainment of chemical fume hood exhaust into HVAC system.

6. Developed and initiated issuance of electronic laboratory inspection reports to department chairs. Reports previously disseminated via campus mail. Decreased issuance time from point of violation documentation to delivery of reports to customers.

7. Conducted Hot Work training of all affected employees and assisted four PPD units (Building Operators, Sheet metal , Air Conditioning, Heating & Cooling), and MCPPD in

developing Hot Work procedures for their affected employees. Trained a total of 71 employees.

8. Sustained an Eastern Kentucky University, College of Health Sciences undergraduate internship position within the department to provide for an additional resource for existing OHS Team projects and enhancement of OHS services provided to customers.

9. Collaborated with PPD and College of Agriculture - Maintenance & Operations in identifying machine guarding needs, designating the use of associated funding, and initiating 100K Life Safety - Machine Guarding Installation Project.

10. Continued collaboration with PPD in conducting industrial hygiene sampling to evaluate suspected asbestos and lead airborne hazards.

11. Additional industrial hygiene sampling conducted within MCPPD, Auxiliary Services, Histology, Hazardous Materials Management, Clinical Laboratory Services, and Environmental Protection. Airborne and physical hazards evaluated included asbestos, lead, noise, xylene, toluene, formaldehyde and noise.

12. In conjunction with the IACUC's Animal Facilities Inspection Program, the OHS Team conducted occupational safety and health inspections of 210 spaces utilized by UK animal workers. All safety deficiencies noted were incorporated into the IACUC's notification and correction tracking system.

13. Continued OHS comprehensive review and identification of safety deficiencies of all animal use protocols submitted to IACUC. Resulted in 12 individuals being identified and completing the required Chemical Hygiene Plan/Laboratory Safety class.

14. Continually provided guidance and OHS design oversight for all new construction/renovation projects including but not limited to: Plant Science Building, Aging Allied Health Building, BBSRB, Biological Sciences Building, Gluck Equine Research Center, KY Clinic, Mechanical Engineering Building, and UKCRH.

15. Coordinated effort on providing EHS booth display at UK New Faculty Orientation in improving employee EHS awareness.

16. Provided technical guidance to UK Hospital Emergency Department on decontamination facility construction project.

17. Conducted a comprehensive environmental health and safety risk assessment of an ethylene oxide sterilizer prior to purchase by DLAR.

18. Provided technical assistance to CPMD in addressing mold remediation in order to proceed with Main (Admin.) Bldg. Reconstruction Site Work Expansion Project.

19. In support of the university's research function, OHS conducted 24 comprehensive laboratory inspections and EHS program reviews associated with DOD Grant Proposals

20. Developed and posted to website DOD Grant Application Guidelines to assist customers in meeting safety and health requirements of application process.

21. Revised and reprinted the UK Employee Safety Handbook.

22. OHS continued to serve as the EH&S trainer for the EH&S orientation of all new employees and supervisors.

23. Conducted a total of 21 Indoor Air Quality Investigations in response to employee solicitations. These investigations involved 20 different buildings. Provided guidance to PPD and MCPPD in conducting remediation of mold and water damage.

24. Provided guidance and input to the one year warranty review of eyewash/safety shower upgrade project involving Garrigus Building, Agricultural Science Center North Building, and Combs Cancer Research Center Building.

25. Continued issuance of standardized Worker's Compensation (WC) injury and illness trend reports to university sectors. Collaborated with UK Human Resources and WC third party administrator in implementation of web-based WC data system.

26. Conducted 10 investigations of significant incidents involving employee/student injury, fire, and/or chemical releases.

27. KY OSH Compliance conducted two complaint based inspections. On 31OCT03, an inspection was conducted in areas within the College of Pharmacy Building. On 10MAR03, an inspection was conducted in areas within the Electrical Engineering Building. No violations documented as a result of both inspections.

28. Participated in UK College of Medicine Integrated Biomedical Sciences PhD Candidate Orientation. Provided training classes to 35 candidates on Laboratory Safety and Bloodborne Pathogens.

29. Developed websites for UK General Safety and Chemical Safety Committees allowing for enhanced information sharing and committee function.

30. Modified the EHS "Setup and Exit Survey Checklist" for laboratories.

31. Provided onsite technical assistance to City of Winchester in response to an explosion at a wastewater treatment pump house. Assisted local authorities in determining cause of explosion.

32. Established and filled Chemical Safety Technician I position (Angela Renick).

Key Indicators for Occupational Health and Safety

Laboratories in the Chemical Hygiene database	1,565
Laboratories inspected	1248
Laboratory Safety Survey Reports Issued to Chairs	28
Fume hoods tested	1109
Indoor Air Quality investigations	25
Respirator Fit-tests	102
Industrial Hygiene samples	153
Ergonomic Office Assessments	66
Ergonomic Assessments (non-office)	14
Training Class Attendance	
Chemical Hygiene Plan/Laboratory Safety	1393
▪ Classroom Training	(235)
▪ On-line Training	(331)
▪ Laboratory Safety (specialized)	(827)
Hazard Communication	61
Hot Work Permitting	71
Respiratory Protection	137
Bloodborne Pathogens (on-line)	31
Ergonomics	30
15-Passenger Van Driver Safety Awareness	45
Ladder Safety	13
New Employee Orientation (EH&S Section)	1270
SuperVISION (EH&S Section)	288

Professional Development and Outreach Activities
Occupational Health and Safety

Lee Poore

- Attended virtual seminar of Laboratory Ventilation Guidelines- An Explanation of the Revised ANSI/AIHA Z9.5-2002 Standard

- Attended Comprehensive Review for Industrial Hygiene Professionals course through University of Cincinnati's College of Medicine

- Maintained certification as a Certified Chemical Hygiene Officer as recognized by the National Registry of Certified Chemists

- American Chemical Society - Member

Bob Cadle

- Served as Secretary of the American Society of Safety Engineers – Bluegrass Chapter

- Co-developed and presented a 1-hour technical session entitled “The Care and Use of Personal Protective Equipment and Hazard Assessment” at the District 5 American Association for Laboratory Animal Science (D5-AALAS).

David Hibbard

- Completed two semesters of graduate course work in pursuit of Master of Public Health degree at Eastern Kentucky University.

- American Industrial Hygiene Association – Diplomate

- American Academy of Industrial Hygiene – Diplomate

- Maintained certification as a Certified Industrial Hygienist as recognized by the American Board of Industrial Hygiene

David Acker

- Co-developed and presented a 1-hour technical session entitled “The Care and Use of Personal Protective Equipment and Hazard Assessment” at the District 5 American Association for Laboratory Animal Science (D5-AALAS).

- American Conference of Governmental Industrial Hygienists – Full Member

Report of the
Radiation Safety Department

University of Kentucky
Radiation Safety Office
Annual Report

For

Harry Enoch
Director, UK Environmental Health & Safety Division

July 31, 2003

Prepared by the Radiation Safety Office Team

Key Indicators for Radiation Safety

Authorized users		208
Authorized laboratories		269
Radionuclide purchases, cost		$947,131
Radionuclide purchases, millicuries		180,997
Radionuclide orders received		2,051
Radiation Source inspections/surveys		1,758
Laboratories	1,653	
X-ray machines	105	
Sealed source leak tests		268
Patient therapies:		
Brachytherapy		39
Thyroid		74
Radiation safety class participants		505
Personnel monitoring:		
Film badges, etc. used		12,173
Level I ALARA reports		52
Level II ALARA reports		17
Waste disposal:		
Dry solid, long-lived, radioactive (cu. ft. shipped)		180.87
Dry solid, short-lived, decayed (cu. ft. disposed)		375.0
Liquid (cu. Ft. incinerated)		81.430
Waste disposal cost (actual total)		$103,017
Radiation instruments calibrated		226

Radioactive Waste
Cost and Quantity Trend Report

Fiscal Year	Volume (cu. ft.)*	Cost**
1992-93	953	$134,300
1993-94	473	90,200
1994-95	180	8,000
1995-96	120	71,400
1996-97	90	29,500
1997-98	120	46,400
1998-99	315	21,100
1999-00	633	109,700
2000-01	390	44,700
2001-02	382	103,000

Calendar Year	Volume (cu. ft.)*	Cost**
1999	315	21,100
2000	633	109,700
2001	390	44,700
2002	382	

* *Volume of dry solid radioactive waste only.*

** *Excluding mixed radioactive-hazardous waste.*

Source: Kentucky Radioactive Waste Annual Reports filed with the Kentucky Cabinet for Health Services (Calendar Year).

Radiation Safety Officer's
Annual Report to the Radiation Safety Committee
Fiscal Year 2002-2003

Introduction

The Radiation Safety Officer is required to submit an annual report regarding the state of radiation safety to the University of Kentucky Radiation Safety Committee. The Report for Fiscal Year (FY) 2002-03 is provided herein.

Significant Occurrences

This is a summary report on major incidents, agency actions, and other regulatory activity involving UK this fiscal year.

Regulatory Inspections

The broad academic and broad medical licenses were inspected in September 2002. Compliance findings included (academic); (1) all ALARA Level II were not approved by the radiation safety officer, (2) a bag of waste was not recorded in the waste log, (3) annual refresher training did not include a review of 902 KAR 100:165, (4) the liquid scintillation counter was not calibrated. There were no findings under the broad medical license.

All items were promptly corrected and full compliance achieved.

Radiological Incidents

- Animal Pathology Building, Tuesday, November 05, after hours, Dr. Cothran's lab, – A lab worker called the Assistant RSO at home regarding eye pain after working with a UV slide viewing light panel. The worker was referred to the Manager, Occupational Safety, who advised her to get medical attention. Subsequent follow-up found no equipment problems or continued pain or complaint.

- Radiation Medicine, Saturday, November 09, 2:45 P.M., Dr. Ahmed's irradiator – A worker called the Assistant RSO to report the irradiator mechanism would not function. The worker was requested to survey the irradiator, confirming there were no unusual levels of radiation. The irradiator and its room were secured and locked. On Monday, November 11, the Assistant RSO – Clinical investigated. The machine had shut down in a failsafe mode. The source was in the shielded position and would not operate any further. The most likely cause was considered to be a failure of the down position switch, as the green indicator light was not lit and the machine would not function. The Shepherd Company was called for service. Full repairs were completed and the irradiator was put back into service by November 15.

- Nuclear Medicine, Stress Lab, May 08, 10:00 A.M., Dr. Conrad's program – A patient who had received 30 mCi of Tc-99m was getting out of bed and spontaneously urinated a small amout onto the bed and floor. The Radiation Safety personnel responded, surveyed, and cleaned the all to background levels.

- Pharmacy, Room 531, May 12, 4:30 P.M., Dr. Stinchcomb's lab – A leaking radioactive liquid waste carbouy was reported. Radiation Safety personnel responded, removed the carbouy, and decontaminated the area.

- Radiation Safety Office, June 23, 3:30 P.M., Bob Wilson's program – An AU called to ask about an I-125 shipment that was overdue. Subsequent follow-up found that the package was apparently missing. A full investigation and search was promptly launched. The shipment of I-125 had been received by the Radiation Safety Office on June 18. It was processed, confirming it to be 100 microcuries of I-125, triiodothyronine. The package was taken to the lab on June 18 by the radiation health technician on package duty for June, but was returned to the Radiation Safety Office because the lab was locked and apparently vacant.

  On June 19, the package duty technician called in sick, and another technician was assigned package duty and advised of the undelivered package. The Radiation Safety Office shipping paper record shows the I-125 package was included for delivery to Room 109, Research Building 3, on June 19. The technician has said that he delivered the package to the lab. He also said it was possible he left the package where he removed the DOT labels. The required signature of receipt for the package was not obtained. With the labels removed, the greatest likelihood is that the package was put into the ordinary trash.

  It is concluded that the most probable fate of the package was incorporation into the ordinary waste stream and on to the sanitary landfill, that the I-125 container remained in the shipping box, and was never opened. In going directly to the ordinary trash channel, there is no significant probability that any individual could have received any radiation exposure or contamination. Once in the landfill, the I-125 will be completely sequestered from any contact. It will become essentially nonradioactive within 1.64 years.

Misadministrations

- There were no patient misadministrations in FY 02-03.

Radiation Safety Office Accomplishments

The items listed below were completed as part of the Major Business Objectives for the EH&S Division in FY 2002-03:

1. Implemented a comprehensive medical x-ray safety and inspection program. (RSO)

   The medical x-ray safety and inspection program has been designed and implemented. All aspects of the centralized system for shield design, registration, initial inspection, annual re-registration, and annual safety inspections are established and operating. The preliminary medical x-ray machine inventory, targeted for inspection in 2002 – 2003, was 105 units. Ninety-seven (97) functioning units were actually found. All were inspected. Eighty (80) percent of the machines have had some type of noncompliance finding. Forty-five (45) percent of these findings are machine related and thirty-five (35) percent are signage, procedures, etc. Some problems have been encountered with getting machine registrations forwarded to the Radiation Safety Office. The Office has worked closely with the Ky Radiation Control Branch to resolve this. Details on the handling of mammography units have been worked out. Nine (9) x-ray shielding designs have been done, associated with four (4) new machine installations and five (5) relocations.

2. Reviewed, revised and streamlined the storage-for-decay radioactive waste program to improve space use, reduce handling and control costs in anticipation of a change in regulatory treatment. (RSO)

   The program to store short-lived radiophosphorous without compaction has been initiated. The decayed, nonradioactive residue is deposited directly to a campus dumpster, eliminating container and

hauling costs. This is equivalent to about two to three drums per month with the former method, for an estimated cost saving of nine hundred to twenty-seven hundred dollars per year.

3. Conducted a review of the groups assigned to wear radiation monitoring badges and eliminate unnecessary use. UK uses 10,000+ monitoring badges a year at an annual cost of ~$25,000. (RSO)

   Thirty-three work groups were initially identified for potential elimination from radiation monitoring. Of these, thirty-one have been contacted for badge deletion. Discussions are being completed with those groups that have serious concerns or reasons for retaining badges. The thirty-one groups constitute an approximate twenty-four (24) percent reduction in the total number of monitored individuals, with a potential cost saving of approximately six thousand dollars.

4. Tracy Cayson was a runner-up for the Paul Nestor Award. Tracy had tenaciously worked to eliminate arbitrary shipping charges and save $20,000 per year.

5. Provided radiological coverage for 113 radiation therapy patients.

6. Completed the annual refresher radiation safety training for ancillary employees.

7. Continued with the Radiation Safety Newsletter.

Additional Radiation Safety Office accomplishments for the year:

8. Prepared the 2002 U.S. EPA NESHAPS report for the University.

9. Conducted 66 Laser Safety Inspections.

10. Performed the annual Quality Management Program (QMP) reviews of the Radiation Medicine and Nuclear Medicine departments.

11. The Office staff cut costs by recycling radionuclides from vendor mistakes and reducing unnecessary radiation badge dosimeter.

12. Reviewed for comment 123 sets of animal research protocols and 181 human subject research protocols.

13. Reviewed and updated the Radiation Emergency Response Plan for UK Police.

14. Conducted a radiation incident practice exercise.

15. Improved security of radioactive material storage areas with updated, electronic systems.

16. Revised and implemented a new S.O.P. for radioactive material processing and delivery.

Academic Participation by Radiation Safety Office Staff
2002-03 Academic Year

1. Gave lectures, seminars, etc. in UK courses (contact hours).

Fred Rawlings
Radiation Medicine: Radiation Protection,

RM/BIO 740 Mammalian Radiation Biology (1 hour)

Bob Wilson

Occupational Health and Safety: Occupational and Environmental Health
PM 601 Radiation Dose Risk (1 hour)
Industrial Uses of Radiation (1 hour)

2. Taught undergraduate and graduate students as part of EH&S safety courses.

Fred Rawlings

Basic and Initial Radiation Safety courses.
Staff technical in-service training classes.
Ancillary and Police staff in-service safety classes.

Gerald Schlenker

Laser Radiation Safety courses (standby for Basic, Initial and other training).
Initial and Refresher Radiation Safety classes for nursing staff.
Medical School Ph.D candidate Radiation Safety Orientation class.
Staff technical in-service training classes.
Ancillary and Security staff in-service safety classes.

Bob Wilson

Initial Radiation Safety classes.
Irradiator safety classes.
Anesthiology medical staff safety class.
Hospital / Medical Center safety classes.

3. Radiation Safety Office staff professional activities.

Bob Wilson became the Past-President of the national Health Physics Society's RSO Section, and continued as a member of the Section Executive Board.

George Ellis, William Garner, Fred Rawlings, Gerald Schlenker, Bob Wilson and David Wilson continued as members of the Blue Grass Chapter of the national Health Physics Society. Mr. Schlenker serves as a member of the Chapter's Executive Council and Mr. Wilson serves as its Secretary-Treasurer.

Mr. Ellis, Mr. Garner, Mr. Schlenker and Mr. Wilson attended the Spring Blue Grass Chapter meeting at the University of Louisville.

Surveys

Radiation Safety Office personnel periodically (at least quarterly) inspect the laboratories and facilities of Authorized Users to monitor the lab's radiation safety program. Radiation exposure rates and removable contamination levels are measured and record keeping systems reviewed during the surveys. The frequency of surveys is determined by the type of source, quantity of radioactive materials used, results of previous surveys, and general compliance with State regulations and University policies.

During FY 02-03 the Radiation Safety Office conducted one thousand six hundred and fifty-five (1655) AU facility (1204 individual lab surveys, research and hospital) surveys, or two hundred and seventy-seven (277) AU facilities per schedule. Eighty-five percent (84.53 %) of the AUs were found to be in compliance.

The most frequently observed non-compliance item was lack of survey records (8.55 %). Such records are required to show that the Authorized User is controlling contamination and radiation exposure in his/her laboratory. The frequency depends on the amount of material used, but area surveys are typically conducted each month. This item has decreased by 58 percent, but continues as a priority compliance action.

The second most common item of non-compliance is evidence of eating or drinking in the lab (3.14 %). The third item is radioactive materials not properly secured (2.64 %). These items are also identified for priority compliance action. The fourth item is radiation warning signs not posted (1.01 %).

Contamination was found in laboratories 0.25 percent of the time. The most frequently observed locations of contamination are laboratory benches, refrigerators, and laboratory equipment. Other less frequently observed locations of contamination, but significant for exposure, are desks, telephones and computers.

The most serious issue observed continues to be a lack of performance or documentation of area surveys. A new compliance follow-up and action system has brought about substantial improvements for this item.

The revised survey form put into use two years ago continues to be useful for tracking trends on noncompliance issues for specific laboratories and for the overall situation.

Table 1

Non-Compliance Issues Observed During F.Y. 02-03

Item #	Occurrence	Percent	Violation
01	2	0.25	UK Notice to Employees not posted
02	8	1.01	Radioactive Materials sign not posted
04	2	0.25	Contamination in Laboratory Area
07	3	0.38	Emergency instructions not posted
14	1	0.13	Emergency #s on lab entrance not posted
22	68	8.55	Survey results not available
23	2	0.25	Survey instrument not used or unavailable
26	25	3.14	Evidence of eating or drinking in use areas
33	7	0.88	Radionuclides improperly stored
35	21	2.64	Radionuclides not secured
48	672	84.53	No items of noncompliance in Lab

Authorizations

To obtain authorization to procure and use radioactive material, a prospective Authorized User must complete an "Application for Authorization to Possess and Use Radioactive Material". The Radiation Safety Officer reviews the application, evaluating the facilities available, the training and experience of the applicant and staff for the proposed use, and the details of the work to be performed. After the review, including any necessary modifications, the application will be forwarded to the appropriate Radiation Safety Subcommittee (medical or campus) with a recommendation for approval or disapproval. The application must be approved by a two-thirds majority vote.

There were 208 Authorized Users with approximately 269 laboratories in FY 02-03. Table 2 provides locations for the most common AU facilities.

Table 2

Authorized Users (AU) and Radioactive Material Laboratories*

Location	Number of Aus	Number of Labs
Animal Pathology	**1**	**1**
ASCN	**8**	**8**
ASTeCC	**3**	**5**
CAER	**1**	**2**
Chem-Physics	**6**	**13**
Clinical Sciences	**3**	**5**
Combs	**11**	**22**
Funkhouser	**3**	**3**
Garrigus	**5**	**7**
Gluck	**4**	**7**
HSRB	**12**	**27**
Kastle Hall	**1**	**1**
Ky Tobacco Research	**5**	**6**
Markey Cancer Center	**3**	**5**
Medical Center	**55**	**95**
Med. Center Small Animal Hospital (Spindletop)	**1**	**4**
MRI	**4**	**5**
Plant Science	**13**	**14**
Pharmacy	**14**	**29**
Research #3	**4**	**6**
Sanders Brown	**11**	**6**
Sloan	**1**	**1**
T.H. Morgan	**8**	**13**
Wenner Gren	**1**	**2**
Total	**168**	**278**

* This table does not include AUs authorized for sealed sources.

During FY 02-03, six (6) new AUs and ten (10) authorization amendments were approved. Twenty-seven (27) authorizations were terminated (by choice, leaving, etc.), up ninety-three percent (93 %) from FY 01-02. Table 3 provides the number of new users, terminated authorizations, amendments and total users for the Campus and Medical Center.

Authorized Users are required to submit 5-year renewal of their authorization upon request by the Radiation Safety Office. Twenty-four (24) AUs received their 5-year authorization renewal. The five-year renewal program is on schedule.

Table 3

Total and Changes in the Number of Authorizations for FY 02-03

	Medical Center	Campus
Total Users	**129**	**80**
New Users	**11**	**2**
Terminated	**12**	**8**
Amendments	**8**	**1**
Five-year Renewals	**11**	**7**

Radiation Safety Training

The Radiation Safety Office provides radiation safety training for all registered radiation workers and principal investigators new to UK. This is done primarily through two regularly scheduled courses. Annual training is also done for ancillary staff, UK police, MC security, Markey nursing staff and others as needed.

The Basic Radiation safety course is for radiation workers new to UK and especially for those with no previous radiation safety training or experience. This course is given monthly and lasts three (3) hours. Topics include rules and regulations, radiation safety at U.K., fundamentals of radiation safety, laboratory practices, waste management and emergency procedures. A short test is given at each session, with a passing grade of sixty percent. New radiation workers can be approved to start work promptly by taking the On-Site and Initial Training orientation provided on demand by the AU and the Radiation Safety Office. The Basic Course is, however, still required. Upon satisfactory completion, a certificate is awarded. The Basic Course must be completed within 4 month of beginning work.

The Advanced Radiation Safety Course is for faculty and staff new to UK but with previous training and experience. This course is available on line through the Environmental Health & Safety website. Topics cover lab or facility radiation safety management at UK. Quizzes are given, and certificates of completion awarded.

The Radiation Safety Office provided approximately two hundred and three (203) radiation safety courses of all types in FY 02-03, with five hundred and fifty-three (553) attendees.

Table 4

Radiation Safety Training Attendance

Title	Number offered	Number of attendees
1. Basic Radiation Safety	**12**	**180**
2. Advanced Radiation Safety	**On-line**	**31**
3. UK Police	**6**	**34**
4. Ancillary Staff	**6**	**139**
5. Initial Training (prereq. For Basic)	**179**	**179**
TOTAL	**203**	**563**

Dosimetry

Dosimetry (film badges, TLD, pocket dosimeters, Luxel, etc.) for individual who may be exposed to ionizing radiation is provided by the Radiation Safety Office. Any individual potentially exposed to gamma, beta x-rays, or neutrons and could receive an annual dose in excess of 10% of the limit must wear dosimetry. The standard monitoring device is a clip-on radiation body or ring badge bearing the individual assignee's name, date of the monitoring period and a unique identification number. The individual may be issued monthly or quarterly badges depending on the potential for exposure. Typically, individuals working in research operations use quarterly badges. Individuals working in Nuclear Medicine, Radiation Medicine, and Radiology typically use monthly badges.

In June 2003 the personnel monitoring service was let to a new vendor for a price reduction. The new prices, and the application of more selective and appropriate monitoring, are expected to further reduce costs in FY 03-04.

The Radiation Safety Office issued 7820 monthly radiation badges and 2640 quarterly badges during FY 02-03. In addition, the Office issued 937 ring badges, 96 neutron badges, and 272 double badges. Two hundred and seventy-two (272) selected EDE calculations per year were performed. The total cost for film badges for FY 02-03 was $15,951, down 60 %.

Table 5

Dosimetry Issued in F.Y. 02-03

Quarterly Badges

Type of dosimetry	Total Issued	Aver. per shipment
Whole Body	2640	660
Rings	207	52
Neutron	96	24
Area Monitor	28	4
Double Badges	0	0

Monthly Badges

Type of dosimetry	Total Issued	Aver. per shipment
Whole Body	7820	651
Rings	730	61
Double Badges	272	23
Neutron	0	--
Area Monitor	96	8
EDE Calculations	272	--
New Badges (estimated)	380	--

The maximum dose for an individual during a particular month can be found in Table 6 for each of the organs monitored, deep, lens of the eye, skin and extremities.

Table 6

Maximum Observed Monthly Radiation Exposures

Organ	Dose (mrem)	Department	Date
Deep	1191	Diagnostic Radiology	12/02
ns of the Eye	1191	Diagnostic Radiology	12/02
Skin (Shallow)	2358	Nuclear Medicine	12/02

Table 7 provides the annual dose for selected departments at the University of Kentucky. Individuals in these departments typically receive more exposure because of the nature of their work. The values given are estimated due to a reporting problem with the service contractor.

Table 7

Annual Whole Body Dose for Selected Departments in mrem (estimated)

Department	# Badged Personnel	Total Exposure	Average Exposure
Dept of Medicine	13	186	14
Nuclear Medicine	9	764	85
Radiation Medicine	64	134	2
Radiology Techs and Radiology Residents	110	5803	53

ALARA Reviews

There are two notification levels for the ALARA program. These levels were modified during FY 02-03. Level I notifications involve a radiation worker receiving greater than 10 percent of the maximum allowable dose (prorated for a quarter exposure period). The recipient is notified in writing when their exposure meets this level's criteria. The notification requests that the worker review their work procedures in order to reduce exposure, if feasible.

Level II notifications involve a radiation worker receiving greater than 30 percent of the maximum allowable dose (prorated for a quarter exposure period). The recipient is notified when their exposure meets this level's criteria and is requested to complete an investigation form as to the probable cause and consideration of actions for reducing the probability of a recurrence.

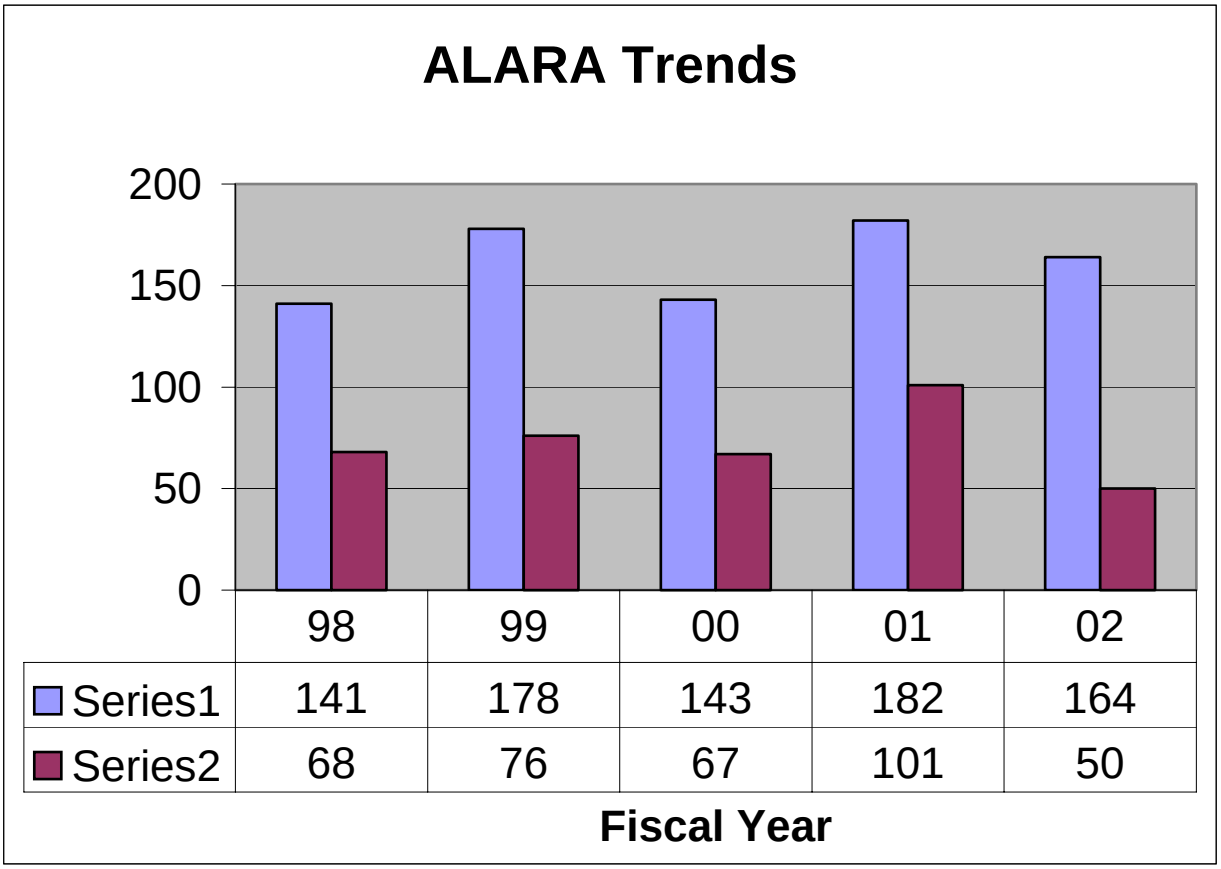
The ALARA notifications for FY 02-03 appear in Table 8 for each quarter. A trend graph is included. The number of ALARA Levels I and II notifications decreased significantly during the FY. The change in ALARA levels and the double badge program, with its EDE calculations, has helped with this. The use of the EDE calculation provides a more realistic representation of the individual’s dose through a comparison between the under lead apron badge reading with the outside apron badge reading.

Level I reports are down sixty-seven percent (67 %) and Level II reports are down sixty-two percent (62 %) from last fiscal year.

Table 8

ALARA Numbers for Each Quarter

Quarter	Level I	Level II
3rd 02	24	6
4th 02	10	7
1st 03	8	3
2nd 03	12	3
TOTAL for the Year	54	19



Bioassays

A thyroid scan is required on individuals who use certain quantities of I-125 and I-131 in both bound and volatile form. Thyroid scans or urinalysis is also done if there is skin contamination. Nuclear Medicine performs its own thyroid scans for staff directly involved in I-131 therapy administrations. The Radiation Safety Office conducted ten (10) thyroid scans in FY 02-03. All results were less than 0.12 uCi body burdens, indicating no greater than 10% of the annual limit of uptake.

Radioactive Material Purchases

All radioactive material must be purchased and received through the Radiation Safety Office, with the exception of radiopharmaceuticals for Nuclear Medicine. The Radiation Safety Office purchased 140,439 millicuries of radioactive material (down 9.5 %) at a total of $655,232 (down 24 %) for Authorized Users in FY 02-03. The most commonly purchased radioisotopes were H-3, Ir-192, I-125, P-32, and S-35 (Table 9a).

Records indicate that at no time was the University close to exceeding its licensed possession limits. The amounts in possession by Authorized Users at the University for the majority of radioisotopes did not exceed 10% of the licensed limits.

Table 9a

Quantity of Radioactive Material Ordered Through
The Radiation Safety Office, FY 02-03

Isotope	**Amount (mCi)**	**Isotope**	**Amount (mCi)**
Al-26	0.005		
C-14	43.926	Mn-54	3.040
	1.013	P-32	1698.760
Co-57	0.007	P-33	24.090
Cr-51	38.190	Pd-103	100.544
Ga-67	0.000	Rb-86	11.817
H-3	130221.840	S-35	479.513
I-123	.000	Sr-89/90	218.735
I-125	3090.013	Tc-99m	0.000
In-111	113.093	Tl-201	0.000
Ir-192	4394.500	Zn-65	0.000
		Total	140,439.086

Table 9b

Quantity of Radioactive Material Ordered Through Nuclear Medicine, FY 02-03

Isotope	Amount (mCi)
C-14	0.003
Cr-51	0.700
Ga-67	627.744
I-123	23.721
I-131	18,221.303
In-111	154.664
Tc-99m	74,550.756
Tl-201	172.439
Total	93,751.330

Nuclear Medicine ordered 93,751 millicuries at a total of $291,898.

Table 9c indicates that as of June 30, 2003, the University had a total of 261,955.559 mCi of radioactive material on hand (not including sealed sources).

Table 9c

Radioactive Material On-hand as of June 30, 2003, Campus

Radionuclide	Activity (mCi)	Radionuclide	Activity (mCi)
Al-26	0.005	In-111	0.460
Am-241	0.009	Ir-192	0.412
C-14	308.434	Mn-54	3.789
Ca-45	1.370	Na-22	0.035
Cd-109	0.042	Ni-63	115.984
Co-57	75.290	P-32	28.372
Co-60	8.238	P-33	2.464
Cr-51	6.130	Pu-239	0.001
Cs-137	491.476	Rb-86	9.054
Fe-55	0.382	S-35	120.444
H-3	260734.300	Zn-65	0.879
I-125	47.989		
		Total:	261,955.559

Radioactive Waste

The Radiation Safety Office conducted nine hundred and thirteen (913) pickups of radioactive waste. Table 10 lists the radionuclides picked up and the total activity for each radionuclide for the fiscal year. The dry solid waste was either shipped out as long-lived radioactive waste or held in storage for at least ten (10) half-lives, surveyed, and disposed of as non-radioactive waste. H-3, C14 and S-35 were the most common long-lived radionuclides, with P-32, P-33 and I-125 the most common short-lived radionuclides. Mixed hazard waste is segregated by half-life, radionuclide and concentration. It is then either decayed until it is only a chemical waste or shipped as a mixed waste (mixed waste is not included in Table 10). During FY 02-03 the Radiation Safety Office shipped 15.2 cubic feet of animal waste.

Table 10

Total Radioactive Waste Received by Radionuclide

Activity in millicuries

Isotope	Dry Solid Waste	Aqueous
C-14	10.961	1.440
Ca-45	1.280	0.000
Cd-109	0.050	0.000
Co-57	0.100	0.000
Cr-51	3.350	1.100
Fe-55	0.003	0.000
H-3	62.971	41.399
I-125	76.903	28.816
I-129	0.014	0.000
Mn-54	4.181	0.000
P-32	430.321	56.350
P-33	5.036	0.952
Rb-86	0.001	1.001
S-35	37.473	3.991
U-238	0.030	0.000
Total	632.674	135.049

The release of liquid aqueous radioactive waste to the municipal sewerage system was eliminated during FY 02-03. These wastes are now shipped for commercial incineration. This eliminates the possibility of non-aqueous wastes from being mistakenly, and unlawfully, released.

The annual Kentucky radioactive waste report was prepared and filed in Frankfort. The following graphs depict the total volume of waste generated and the associated disposal costs for the past ten years. In general, UK has been able to contain waste costs. However, fees are rising, special waste disposals occur and charges are being added such that the overall cost can be expected to increase.

Meter Calibrations

Authorized Users working with radioactive material other than H-3, C-14 or S-35 are required to have a Geiger counter with a end window or pancake type detector in the laboratory. The Radiation Safety Office calibrates these survey instruments annually. The Authorized User must notify the Radiation Safety Office when he/she purchases a new Geiger counter. Two hundred and twenty-six (226) meters were calibrated during FY 02-03.

Patient Care Support

The Radiation Safety Office provides radiation safety support for patient's receiving therapeutic radiopharmaceuticals (>33 mCi I-131), Cs-137 implants, Ir-192 implants and seed implants. Upon administration of radiopharmaceuticals or brachytherapy implants, the Radiation Safety Office performs and documents a multi-point radiation survey. This data is used to determine the allowed time hospital staff and visitors are allowed to be adjacent to the patient. The hospital staff and visitors are then instructed on the radiation safety precautions to be followed when in or around the room containing the radioactive patient. Patient care support decreased by thirty percent (30 %) in FY 02-03.

Table 11

Radiation Safety Services to Nuclear Medicine and Radiation Medicine

Brachytherapy Implants	**39**
Thyroid treatments	**74**
Total	**113**

Sealed Source Inventory and Leak Test

The Radiation Safety Office performs all sealed source leak tests. All beta/gamma and neutron sealed sources (greater than 100 microcuries) were tested for leakage at intervals not to exceed six months. All sealed sources (greater than 10 microcuries) designed for the purpose of emitting alpha particles were tested at intervals not to exceed three months. Ni-63 foil sources (greater than 100 microcuries) were tested at intervals not to exceed six months. If a leak test reveals removable contamination greater than 0.005 microcuries, the source is removed from use and decontaminated, repaired or disposed of as radioactive waste. During FY 02-03, the Radiation Safety Office conducted two hundred and sixty-eight (268) leak tests (each therapy source has been counted individually for the first time). No activity greater than 0.005 microcuries was observed. The inventory of sealed sources is decreasing as those no longer in service are shipped for disposal.

Lasers

The Principal Investigator is responsible for safe use of lasers in his/her laboratory and to inform the Radiation Safety Office in the event of an accident. Lasers must be registered with the Radiation Safety Office Prior to use. During FY 02-03, sixty-six (66) laser facility inspections were completed. Consultations and preregistration guidance was provided. A web based training program is available, allowing users to complete the laser safety training requirements on line. Eight (8) laser users have completed the online web based training during FY 02-03.

Bob Wilson, Director
UK Radiation Safety Office
July 31, 2003

Report of the
University Fire Marshal

Fire Marshal Activities
Fiscal Year 2002-2003

Training--- (Fire extinguishers/Fire Prevention)

- Parking—July 9th—12 people
- Parking---July 10th—10 people
- HRS—July 25th---2 people
- HRS---August 21st---30 people
- HRS---September 19th—6 people
- HRS---October 30th---4 people
- HRS---November 26th---2 people
- HRS---December 10th---1 person
- HRS---January 15th---3 people refused to take the training
- HRS---February 26th—3 people
- HRS---April 29th—3 people
- HRS---May 27th----9 people
- Greek Chapter House Mothers/Fathers: 13 people (11 sororities/2 fraternities) [fire prevention]
- International Graduate Students (Chemistry), August 8th, 14 students
- Hall Directors, August 13th , 45 students
- Hall Directors, January 13th, 10 students (new hall directors for the spring semester)
- Panhellic (Sororities) Orientation; August 13th, 1200 (SEE NEW PROGRAMS) [fire prevention]
- Resident Advisors---August 19th---180 people
- Parking---August 21st---12 people
- Chemistry Physics: August 26th—30 students
- Sigma Nu: September 23rd---45 people
- Farmhouse: September 23rd---50 people
- Kappa Sigma—September 30th---55 people
- Phi Sigma Kappa---October 14th---35 people
- PPD's electric, sheet metal and wood shops---10-16-02—35 people
- Shawneetown (Graduate and Family Housing)—Fire Prevention only—35 people
- Kirwan Tower---October 21st---50 people
- Phi Kappa Alpha--- 30 people
- Sigma Chi---November 25th—47 people (fire prevention)
- Phi Kappa Tau---November 25th---25 people (fire prevention)
- Haggin Hall, February 5th: 45 people: Due to having four arson incidents, Jason Strickland, RA, organized an impromptu barbecue and disused the dangers of such acts and requested the occupants assistance in preventing these incidents. He also invited the UK Fire Marshal. The UK Fire Marshal requested the attendance of members of the Metro Fire Investigation Unit and they reinforced the message that Jason had given to the occupants. This was a proactive event to enhance fire prevention in Haggin Hall.
- Kappa Delta—April 7th—42 people: fire prevention.
- Kirwan –April 23rd--20 people—fire prevention
- Haggin Hall—April 30th—4 people: fire prevention class for students who violated fire code regulations. Class to become required and be expanded. (SEE NEW PROGRAMS)
- Campus PPD shops: two classes: 61 people

Fire/Life Safety Inspections

- Greek Chapters
- State Fire Marshal inspection of campus
- Memorial Coliseum—Midnight Maddness
- Homecoming Parade floats
- Halloween parties for housing
- Emergency Lighting surveys
  >Gluck Building
  >MIK South
- 4-H Camps

Professional Training

- Fire Treated Wood Seminar: September 17th: Greg: training involved the proper application of fire treatment wood based on the type of building construction
- Campus Fire Safety and Security Professional Development Conference; UN, Miami Ohio; Feb 3rd and 4th. Garry
- DEEM—Storm Ready and Advanced Weather Watchers—March 24th & 25th (total of 3 hours)
- CAAK (building code review for certification); April 14, 15, 16th: Greg
- NFPA 101 and NFPA 1 Seminar: June 27th: Garry

Emergency Procedures (Review/Approval)

- Kirwan Tower and the four low-rises,
- Blanding Tower and the four low-rises
- Cooperstown Housing Complex
- W.T. Young Library
- Sigma Alpha Epsilon

Special Projects

- Toured Kimball House—July 9th
- Evaluated Funkhouser Tower per request of Dr. Nitzel for feasibility of 2nd exit from Tower.
- Fire Department "Pre-Attack' training: Tours of all University buildings were provided for the fire department. The objective was to acquaint firemen with buildings, review critical areas such as chemical storage rooms, location of sprinkler connections and fire hydrants, and access to the buildings. Also, campus maps indicating what buildings are sprinkled and individual drawings of buildings were provided. The following is the schedule of tours;
  >July 24th: Group 4 buildings
  >July 31st: Group 5 buildings
  >August 6th: Residence Halls, Greek Chapters, Cooperstown and Shawneetown
  >August 7th: Group 1 buildings
  >August 14th: Group 2 buildings
  >August 21st: Group 3 buildings
  >August 28th: Group 6 buildings
  >September 4th: Medical Center Buildings
  >September 18th: Medical Center/University Hospital Complex

- Tested wet chemical suppression system for kitchen—Erickson Hall
- August 7th: in conjunction with Public Relations, discussed Residence Hall sprinkler program with WTVQ Channel 36.
- Blanding Tower, 9-10-02: tested fire alarm system for decibel level during a fire drill.

- Added the fire alarm reporting requirements per the Michael Minger Act to the UK telephone directory in an effort to train university employees on the requirements.
- Safety precautions provided to Residence Halls Life office to be listed in the Stalls for the Halls information bulletin (Spring Semester)
- Arboretum "field burn", March 24th: coordinated with Fire Department to receive a permit for the burn.
- Tested wet chemical suppression system for Sigma Alpha Epsilon—March 25th
- Due to construction requirements for the Gil Heart building, devised a short term fire safety contingency plan for the Medical Center/Hospital Complex. To complete a connection to a major water supply line for Gil Heart, the complex's sprinkler and standpipe systems had to be shut down leaving the complex without any fire suppression systems. May 17th.
- Obtained variance from State to use NFPA 45 for storage requirements for flammable liquids in lieu of the KBC requirements
- Reviewed and approved security plan for locking doors in the Medical Center/Hospital complex. The locking arrangements included "delayed egress" and "controlled access".

Fires on Campus

- Patterson Office Tower---August 12th:--electrical fire caused by a floor fan: sprinkler system extinguished: minor fire damage: some water damage: no injuries
- Page Apt Unit 21, Apt #178: electrical fire in bathroom ceiling light/exhaust fan unit. Minor fire damage; some physical damage to room to access fire area: no injuries.
- Phi Gamma Delta, 653 Maxwelton Ct.—(off campus fraternity/property not owned by University): blower to furnace stopped working causing large quantities of smoke; no physical damage to building, no injuries (State Fire Marshal did respond)
- Johnson Building (Seaton Center Addition) ---December 16th---Building still under construction. Debris piled in exterior entrance way to front door caught on fire. Cause of fire undetermined.
- Haggin Hall: January 17th: 3 arson fires within a 45 minute time span. Very small fires in bathrooms. Neither the fire alarm system nor the sprinkler system was activated. Police investigating.
- Scott Street Parking: January 19th; arson fire to a PPD truck. Cab of truck destroyed. At same time, a small fire in a trash can exterior to Dickey Hall set on fire. Two fire extinguishers were removed from Taylor Education Building and vandalized. All incidents seemed to be related. UK Police arrested two suspects.
- Haggin Hall; January 27th; arson fire in bathroom. Piece of burned paper thrown into trash can—did not ignite trash can. Fire alarm nor sprinkler system not activated. UK Police investigating.
- Blazer Hall—February 7th -arson—paper on bulletin board: reported late (RA noticed the bulletin board and filed report)
- Davis Mills (MRISC): two arson fires (1-23-03 & 2/6/03) not reported until 2-08-03. Training was provided on the recognition of this reportable incident. Arson notices were posted.
- Kirwan 3—April 23rd—arson; someone pushed a lit cigarette beneath the Hall Director's apartment door; burned a hole in a "throw carpet. Police are investigating.
- Parking Structure #3, May 8th, vehicle fire. Vehicle a total loss. No injuries. Possible cause is gas/oil on manifold.
- Wildcat Lodge, May 8th, two pumps to heat exchangers overheated due to an electrical incident on the city street. No injuries.
- Parking Structure #3, level 4; May 13th; vehicle fire; trunk of car destroyed. Electrical short in recently installed wiring to automatic trunk lock was probable cause.

Major Improvements

>Keeneland Hall—sprinklers added
>Blazer Hall—sprinklers added

>Kirwan Low Rises 1, 2, 3, 4—sprinklers added
>Dormitory Complex Tunnel---sprinklers added

NOTE: **With the completion of the above buildings, ALL CAMPUS RESIDENTIAL BUILDINGS are 100% sprinkled.**

>Sprinkler systems have been completed for Alpha Tau Omega, Alpha Gamma Rohm, Sigma Nu, Lambda Chi Alpha, Phi Sigma Kappa, Phi Kappa Alpha, Kappa Sigma, Chi Omega, Delta Delta Delta, Alpha Delta Pi, Delta Gamma, Delta Seta, Kappa Alpha Theta, Kappa Delta, and Alpha Xi Delta.

NOTE: With the completion of these buildings, ALL GREEK CHAPTERS under the jurisdiction of the University are 100% sprinkled.

>Commonwealth Stadium: added additional emergency lighting units including units to serve the parking areas immediately adjacent to the stadium. In addition, all existing lights were changed to better quality metal halon units.

New Programs

- Panhellic Orientation: this program included all members of sororities, both in-house and off campus members. The training involved the basics of life safety and fire prevention. This is to become an annual required training orientation program.
- Haggin Hall: a required fire prevention program was conducted for students who violated fire code regulations or fire prevention policies. Residence Halls Life office has requested this program to become an annual program. Residence Halls Life office will decide who must attend this program.

Stairwell/Corridor Evaluations

- Taylor Education Building
- Whalen Transportation Building
- Agricultural Engineering
- Agricultural Regulatory Services
- Civil Engineering
- Robotics
- Journalism
- Miller Hall
- Research #3
- Frazee Hall (partial)

Vending Areas Inspected (Per the Vending Office, all areas have been inspected with the exception of the areas within the Medical Center/Hospital Complex.

- Alumni Gym
- Grehan Journalism
- Kastle Hall
- T.P. Cooper
- Ag. Science North
- Ag. Engineering
- Ag. Regulatory Services
- Greg Page Laundry
- Business and Economics
- Oswald Building (additional area to be located in atrium)

KEY INDICATORS

Fire Extinguishers inspected	6378
Fire Extinguishers serviced	64
New Fire Extinguishers purchased	400
Fire Extinguisher/Fire Prevention Training	2172
Fire Alarms	578
Actual Fires	38
Working Fires (Required UK Fire Marshal Response)	14
Plan Review (New Construction/Renovations)	161

PICTORIAL ACTIVITIES OF THE FIRE MARSHAL'S OFFICE

Johnson Center 12/16/02

Fire was contained in the pile of construction debri. Photo by Bill Pieratt

(Investigation for source of ignition)

Kinkead Hall 5-29-03

Cardboard and paper that is being stored under the stairs in the basement.

(Obstruction of required exit)

Mines & Minerals
Room 226B
1-9-03

Storage on work desk

(Exit obstruction in an office)

(Exit obstruction in a classroom)

Research #3

Stairway wall is required to be seperated from the remainder of the building by one-hour fire rated construction. As this picture shows the walls are terminated above the drop ceiling.

(Improper storage/ventilation)

(Flushing hydrants)

(Barn destroyed—cause undetermined)

Report of the
Committee on Environmental Health and Safety

EH&S Certificates of Appreciation

In recognition of outstanding contributions to safety at the University of Kentucky, the Committee on Environmental Health and Safety has awarded the following certificates of appreciation. This list includes the awardees for 2003 and previous years.

2003	Teri Strickland	College of Pharmacy
	Cabot Jahniger	State Fire Marshal's Office
	Linus Walton	College of Agriculture
	Ben Crutcher	Auxiliiary & Campus Services
	Jason Pridemore	Student Resident Advisor
	David Kaiser	Physical Plant Division
	Orlando Chambers	Tobacco Research & Development Center
2002	Lyle Morgan	Auxiliary Services – Housing
	Joe Crouch	Capital Project Management
	Homer Walter	Physical Plant Division
	Jerry Tackett	Robotics and Manufacturing Systems
	Michael Jay	College of Pharmacy
	Pamela Jacobs	Clinical Laboratories
	Don Stone	Parking and Transportation
	Debra Ross	Auxiliary Services – Apartment Housing
	Kathy Rose	Campus Recreation
	Maelor Davies	Tobacco Health Research Institute
	Eva Kaplan	Animal Sciences
2001	Gene Baber	Physics & Astronomy
	IACUC Committee	Mike Bardo, Chair
	John Anthony	Chemistry
	Mary Vickers	Livestock Disease and Diagnostic Center
	Jana Angel	Rehabilitation Services
	David Waldridge	Medical Center Physical Plant Division
	Gary Ginn	Anatomy & Neurobiology
	John Gurley	Cardiology
	Jeanne Bouvier	Nursing
	Ali Meigooni	Radiation Medicine
	Don Hill	Physical Plant Division
	Richard Riedl	Capital Project Management

2000	Bob Brashear	Ag Management Operations
	Ted Jenkins	Chemistry
	Steve Evans	Residence Life
	Tony Ralph	Residence Life
	Marcia Shrout	Residence Life
	Stephen Stauffer	Residence Life
	Melanie Tyner-Wilson	Residence Life
	Loretta Hill	Custodial Services
	James Bryan	Surplus Property
	Brian Butler	Pharmacy
	Norman Goodman	Pathology
	Joseph Mallek	Medical Center Physical Plant Division
	Janet Rodgers	Lab Animal Resources
	Oney Vanlandingham	Center for Applied Energy Resources
1999	Donald Thornton	Parking and Transportation
1998	Mary Ferlan	Wellness
	John Summersett	Physical Plant Division
	Ralph Christensen	Allied Health, Clinical Sciences
	Creighton Trahan	Office of the University Veterinarian
	Kenneth Dickey	Laboratory Animal Resources
	Larry Iten	Laboratory Animal Resources
	Susan Overman	Serology and Virology
	Tomi Ross	Hospital Safety Office
	Carl Nathe	Public Relations
1996	Herbert Strobel	Animal Sciences
	Thomas Vanaman	Biochemistry
	Robert Toreki	Chemistry
	Claude Cornelison	Auxiliary Services
	Greg Shiddell	Auxiliary Services
	Joseph Mallek	Medical Center Physical Plant Division
	Relon Hampton	Whitesburg Community College
	Jerry Hensley	Whitesburg Community College
	Mike Polashock	Paducah Community College
	Rae Ann Egner	Paducah Community College
	Maintenance Department	Paducah Community College
	David Campbell	Henderson Community College
	Judith Chabot	Ashland Community College

Minutes of the
Environmental Health and Safety Committee
FY 2002-03

Environmental Health and Safety Committee
Minutes of September 25, 2002

Members Present:

Mark Meier
Eric Moss
J. W. Yates
Harry Enoch
Henry Huff
Herbert Strobel
Justin Rasner
Ada Sue Selwitz
John Lowry
Nicholas McLetchie
Daniel Noonan
Ralph Christensen
Joseph Frye
Tomi Ross
Wayne Ritchie
Teri Strickland
Jacob Karnes

Guests:

David Hibbard
Woody Bottom
Bob Cadle
Lee Poore
David Acker
Kathy Grossman

Mark Meier welcomed new members. He also recognized the four subcommittee chairs, who also sit on the EH&S Committee: Caroline Gill, Chemical Safety Committee; Ralph Christensen, Radiation Safety Committee; Tomi Ross, General Safety Committee; and Judith Lesnaw, Biosafety Committee. Meeting dates for this school year were announced and approved by members. Meetings will be held from 1:30 p.m. to 3:30 p.m. on

November 13, 2002
January 29, 2003
March 19, 2003

Minutes of the March 20, 2002 meeting were approved with one revision, 'Ralph Christensen, committee vice-chair' not 'chair'.

Annual Report

Woody Bottom gave a brief presentation on the *8th Annual State of the Environment Report*, the annual report of the EH&S Division and of the EH&S Committee. David Hibbard presented the section of the report dealing with injury/illness data and Occupational Health & Safety Department activities. Mr. Hibbard discussed the need for effective metrics for reporting accident data to administration. This was discussed again under Compliance/Enforcement Initiatives below.

The committee approved the revised report for submittal to Dr. Ben Carr, Vice President for Campus and Auxiliary Services. The report will also be put on the EH&S web site (http://www.uky.edu/Services/EHS/).

There was a discussion about one of the programs listed in the report: battery recycling. Several suggestions were provided about how to increase awareness of and participation in the program, especially among student.

- **Old Business**

Compliance/Enforcement Initiatives
There was a lengthy discussion of item, which had been deferred for several meetings. Dr. Meier presented the background for this issue, referring to the need to reduce personal risk of injuries and illnesses, comply with regulatory requirements, and protect the university from loss of property, fines, bad press, damaged reputation, etc. He proposed that the committee could recommend a process for achieving "safety compliance." Members brought up some of the characteristics for such a process:

1. need to "incentivize" the process
2. need culture change at the university
3. need to publicize, get the word out
4. need top level (President) buy in
5. need to develop metrics to measure performance
6. need to set performance goals
7. need to report on performance to top level administration

The committee agreed to continue discussion of a compliance process at the next meeting.

- **New Business**

None

The meeting adjourned at approximately 3 p.m.

Environmental Health and Safety Committee
Minutes of November 13, 2002

Members Present:

Mark Meier
Daniel Noonan
Harry Enoch
Wayne Ritchie
J. W. Yates
Robert Blouin
Janet Williams
Herbert Strobel
Justin Rasner

Guests:

Lee Faulkner
Greg Williamson
Woody Bottom
Lee Poore
Bob Wilson
David Hibbard
Bob Cadle

Minutes of the September 25, 2002 meeting were approved with no changes.

EH&S Director's Report

Harry Enoch gave an update on recent environmental health and safety issues as follows:

- Anti-bioterrorism Law - The University must identify all select agents and implement registration of every individual who has access to select agents. Security regulations are to be tightened to insure that there is restricted access to biological agents.

- Global Polio Eradication - The U. S. Department of Health and Human Services is conducting a global survey of wild poliovirus in labs in its initiative to wipe it off the planet. Laboratories are alerted to destroy or move up security to keep wild polio from reentering the environment.

- Fires - Reported fires were at a Greg Page apartment during the summer caused by an exhaust fan; an office in Patterson Office Tower from a floor fan left unattended; and the Pi Gamma Delta house, a fraternity off campus, from a malfunctioned furnace blower.

- Inspections - A Radiation Safety license inspection in September at the Hospital and Medical Center produced no violations. The only minor technical compliance issues were for Research Campus (4 or 5 issues). An EPA inspection in July for hazardous wastes produced 16 areas that had one or more violations, out of the 31 areas visited. The violations were in labs at Agriculture Science North, Pharmacy and Medical Center areas. The follow up inspection in Tobacco and Health produced no violations. An OSHA complaint inspection on October 31 at the College of Pharmacy regarding concerns over air quality, fume hoods, chemical storage, safety showers, and emergency planning produced no violations.

- North Farm Cleanup - Installed monitoring wells instead of digging at the fourth site. Hope to close the site soon and to finish remediation of the north farms.

- Mercury Cleanup - The mercury cleanup at Chemistry Physics resulted in lower mercury levels, but additional work is needed to meet standards. Mark Meier stated that mercury is not being used in General Chemistry this fall. Of the two wastewater outfalls at the Medical Center, one is fixed. The University has received a letter from the city to bring into compliance the wastewater outfall that serves Medical Center where Rose and Lime meet. The Garrigus and Agricultural Engineering Buildings also need mercury remediation.

- Diesel Spill - While moving surplus vehicles at Main Chance Farm, a ruptured diesel fuel tank contaminated 28 cubic yards of soil that had to be removed.

- Oil Incident - At Nutter Field house, oil was dumped in an underground electrical vault. The source is unknown.

- Asbestos - Drilled into asbestos while installing new door hardware at Blazer Hall; Fine Arts renovation disturbed asbestos; and asbestos disturbed in a fume hood in Kastle Hall.

- Mercury Thermometer Replacement - Hazardous Materials is in the process of changing out all mercury thermometers for alcohol.

Old Business

Compliance/Enforcement Initiatives
David Hibbard and Harry Enoch gave a brief presentation on Compliance/Enforcement Initiatives. Items discussed were violation categories, a suggested reporting process, enforcement models ("incentivize" or punitive) and compliance plans. Violation categories suggested as follows: imminent danger (immediate threat to life or serious injury), serious (any condition where death or serious injury could result), and repeat (same violation found upon re-inspection). Suggested reporting process would involve EHS, President, Provost, Medical Center Chancellor, VP Research, Deans, Managers and Departmental Chairs. Enforcement models discussed were the "incentivize" model which would involve rewarding and fixing problems and the punitive model which could include closing labs, limiting access, and trickle down economics. A 5-year compliance plan was discussed looking at a reasonable reduction per year. It was suggested to determine a proposed area to concentrate on and possibly forming a subcommittee to concentrate on this initiative. The committee would consist of individuals from IRB, Animal Care, and Research Integrity. The committee agreed to continue discussion of a compliance process at the next meeting.

New Business

15-Passenger Vans
Bob Cadle discussed safety concerns of the wide use of 15-passenger vans at the University, approximately 800,000-1,000,000 miles/year. These vans were identified as a rollover hazard by the National Highway Traffic Administration. The committee recommended that the University implement a policy to not purchase any of these vans in the future. Mark Meier is to send a memo to administration to address this issue. Additional measures suggested to improve safety are to take out 2 seats, remove luggage racks, and to allow only experienced drivers to drive

vans. The committee and EH&S will develop recommendations to address the risks associated with the University's current 15-passenger vans.

The next EH&S Committee meeting is scheduled for January 29, 2003. The meeting will be held at 1:30 p.m. in room 102 of the Mining and Minerals Building unless otherwise notified.

The meeting adjourned at 3:35 p.m.

Environmental Health and Safety Committee
Minutes of January 29, 2003

Members Present:

Mark Meier	Thomas Kluemper
Henry Huff	Judith Lesnaw
Harry Enoch	J. W. Yates
Wayne Ritchie	Jacob Karnes
Ada Sue Selwitz	John Lowry
Garry Beach	Ralph Christensen

Guests:

David Hibbard	Bob Cadle
Marcia Finucane	Ed McClure
Woody Bottom	Bob Wilson

Minutes of the November 13, 2002 meeting were approved with no changes.

Old Business

15-Passenger Vans

David Hibbard and Bob Cadle discussed safety concerns of the wide use of 15-passenger vans at the University. There were 460+ drivers from 158 departments for approximately 800,000-1,000,000 miles last year. A poll of 67 colleges shows 57 still use 15-passenger vans and the remaining have implemented restrictions for use of 15-passenger vans; 17 are currently phasing out use and 42 have mandatory training for use of the vans. The EH&S recommendation of November 13, 2002 was sent to Ben Carr which was forwarded to Jack Blanton. Dr. Blanton has not acted on the recommendation. EH&S has developed a 15-passenger van driver safety program which is currently non-mandatory. The committee approved additional recommendations to address the risks associated with the University's current 15-passenger vans. Recommendations as follows:

1. Require mandatory driver safety training for all users of UK 15-passenger vans.

2. Remove the rear seat from all 15-passenger vans. No more than 11 persons; number should be reduced by 1 for each 170 pounds of luggage or equipment.

3. Require the Motor Pool to review driver licenses of anyone who will drive 15-passenger vans.

4. Install a hang tag, rollover warning, on all 15-passenger vans to reinforce awareness of the hazards associated with vehicle.

Compliance/Enforcement Initiatives

A presentation, on Compliance Issues at UK, was presented at the 01/28/03 Provost's Deans meeting. The committee voiced concerns regarding safety compliance and enforcement. The University needs to look for a way to improve compliance before overly stringent programs are imposed on us by regulators. The committee is reluctant to take on such a major undertaking with no mandate and no University commitment to act on the result. The committee is willing to take on this charge if it is assigned by the President. However, the committee believes that in order to succeed, the President's committee needs to have representation and direction from a higher level of University administration than currently represented on the committee. EH&S committee recommends that the president appoint a committee to identify noncompliance issues, examine potential accountability measures, and bring back a set recommendations designed to improve University compliance. The committee should consist of individuals from the EHS committee and other committees as well as administrators.

New Business

Certificates of Appreciation

It was decided that the committee would award certificates of appreciation to individuals at the next EH&S Committee meeting. Harry asked the committee to submit to either Dr. Meier or him the names of individuals they would like to nominate with a general statement regarding his/her contribution to safety.

The next EH&S Committee meeting is scheduled for March 19, 2003. The meeting will be held at 1:30 p.m. in room 137 of the Chemistry/Physics Building unless otherwise notified.

The meeting adjourned at 3:15 p.m.

Environmental Health and Safety Committee
Minutes of March 19, 2003

Members Present:

Mark Meier
Larry Piercy
Harry Enoch
Wayne Ritchie
Joseph Frye
Garry Beach
Warren Denny
Herbert Strobel
Janet Williams
John Lowry
Ralph Christensen
Thomas Kluemper
Robert Blouin

Guests:

Lee Poore
Marcia Finucane
Woody Bottom
Ben Carr
Travis Manley
Teri Strickland
Ken Roberts
Bob Wilson
Ken Clevidence
Don Thornton

Minutes of the January 29, 2003 meeting were approved with no changes.

- **New Business**

Certificates of Appreciation

Harry Enoch presented this year's Safety Awards to the following individuals in recognition of their outstanding contributions to improved safety at the university:

Teri Strickland
Cabot Jahniger
Linus Walton
Ben Crutcher
Jason Pridemore
David Kaiser
Orlando Chambers

Radiation Safety had approximately 50 out of 220 Authorized Users with no violations. In recognition of their achievement, the Committee recommended sending a letter to their department chair and dean.

Harry and John Lowry reported on UK's response to the Bioterrorism Preparedness Act of 2002.

Committee Reports

Biological Safety – presented by Marcia Finucane, Biosafety Officer
Chemical Safety – no report
General Safety – no report
Radiation Safety – presented by Ralph Christensen, Chair

- **Other Business**

Travis Manley brought up the problem created by the Board of Trustees changing street names without working with LFUCG. It was suggested that we could use two names, the old and the new. Ken Clevidence agreed to run this idea by the city.

The meeting adjourned at 3:15 p.m.

Minutes of the
Chemical Safety Committee
FY 2002-03

Chemical Safety Committee
Minutes of September 17, 2002

Present	**Absent**
Caroline Gil (Chair)	Daret St. Claire
Meg Stienham for Doris Baker	David Atwood
Peter Crooks	Harold Burton
Peter Huettl	John Lowry (Ex-Officio)
Thomas Vanaman	
Maggie Johnson	
Todd Porter	
David Hibbard (Ex-Officio)	
Lee Poore (Ex-Officio)	

1. **Introduction of members** – Caroline Gil brought the committee to order.

2. **Minutes from March 27, 2002-** A motion was made by Tom Vanaman to approve the minutes. Peter Huettl seconded and all approved. Motion passed.

3. **Review of bylaws-** Committee was asked to review and address any changes that they feel might need to be made. TV suggested that the EHS committee look at their bylaws to ensure no changes need to be made due to the structure changes in the University. TV would like to address that potential for some approval or review process for chemical use or purchase. This topic was discussed at length. DH and LP will research and bring information to the committee next time.

4. **UK Model Chemical Plan-** All members were requested to review the Model Chemical Hygiene Plan and have any changes to present to the committee at the next meeting. http://www.uky.edu/Services/EHS/ohs/chp/welcome.html

5. **Chemical Injury/Illness Report and Worker's Care Data**
   Lee Poore provided chemical injury/illness data and the last three years of Worker's Care data. Several members recommended that the data that is being collected be reviewed to allow better tracking for accident investigation. DH will speak with Diane Huage and John Sampson.

   PC wanted to address why so many arm injuries are occurring in chemistry. Chemistry department is not requiring that students wear lab coats. A motion to was made to have EHS department remind areas that the CHP principals apply to students. That means that students working in chemical laboratories are required to wear a lab coat.

6. **Training Initiative-**From last year's review of injury and illness data it was recommended that Organic chemistry students have some additional safety training. The summer and fall

semester students were trained. After the spring semester a comparison of injury data will be done.

7. **Meeting Schedule**-DH will coordinate with TV and CG because of conflicting schedules.

8. **New business-**

   Solvent storage policy- DH gave committee information on current policy and then proposed change to 10 gallons of solvents out of safety cans or cabinets and the rest in flammable storage cabinets with the total for all in the lab being no greater than 40 gallons stored.

   TV, PC and PH expressed concern. Difficult for some operations to function like this. Hazardous waste would need to be picked up more often or have an area to store it.

9. **Adjourned**
   Tom Vanaman motioned to adjourn and seconded by Harold Burton.

Chemical Safety Committee
Minutes of December 5, 2002

Present	**Absent**
Caroline Gil (Chair)	Harold Burton
Todd Porter	David Atwood
Peter Crooks	John Lowry (Ex-Officio)
Thomas Vanaman	Meg Stienham for Doris Baker
Peter Huettl	
Daret St. Claire	
David Hibbard (Ex-Officio)	
Lee Poore (Ex-Officio)	

The meeting was called to order by Caroline Gil at 12:10 PM.

1. **Approval of Minutes from September 29, 2002-** A motion was made by Peter Huettl to approve the minutes. Peter Crooks seconded and all approved. Motion passed.

2. **Annual Review of UK Model Chemical Plan-** Lee Poore went over the major changes to the plan. Chapter 3 had the most significant changes with the additions of an SOP explanation and a work sheet included in the Appendix. A link to the draft has been put up on the web at http://www.uky.edu/Services/EHS/ohs/chp/welcome.html for the committee to make any additional recommendations. Members were requested to respond no later than January 15th.

   The SOP work sheet was borrowed from Michigan State's Office of Radiation, Chemical and Biological Safety (ORCBS). Todd Porter wanted the link to see some of their pre-made SOPs. That link is http://www.orcbs.msu.edu/chemical/sop/commonsop.html

   Peter Huetll proposed that a quick reference sheet be made up and placed out front that indicated what safety precautions should be taken in the lab. Lee Poore will work on a such a sheet.

3. **Chemical Injury/Illness Report and Worker's Care Data**
   Not reported this meeting. It is scheduled for next meeting.

4. **Training Initiative-** Committee was asked for any areas they felt needed to be focused on. David Hibbard mentioned Ag as a next location for emphasis.

5. **Meeting Schedule**-Lee Poore will choose some possible dates and send them out. Todd Porter mentioned that they could be pushed back some to allow for more time between meetings over the summer.

6. **New business-**

Lab inspection Procedures and reports-David Hibbard gave the presentation that was made at the EHS committee meeting. Todd Porter suggested a chart that incorporates the actual violation along with a dollar amount that a regulator might have assessed.

OSHA Inspection at COP- Lee Poore gave the report on inspection activity. The inspection was initiated by a complaint to the KY Labor Cabinet. The ensuing inspection began on October 31 and the compliance officer visited the site two more times. The file was closed and no citations were issued.

Member leaving- Maggie Johnson has left the University of Kentucky. The committee did not replace her vacated seat.

7. **Adjourned**

Todd Porter motioned to adjourn and seconded by Peter Huettl. Motioned passed, meeting adjourned at 1:30.

Chemical Safety Committee
Minutes of March 25, 2003

Present	**Absent**
Caroline Gil (Chair)	David Atwood
Meg Steinman for Doris Baker	Harold Burton
Peter Crooks	
Peter Huettl	
Daret St. Claire	
Todd Porter	
Thomas Vanaman	
David Hibbard (Ex-Officio)	
Lee Poore (Ex-Officio)	
John Lowry (Ex-Officio)	
Angie Renick	

Caroline Gil called the meeting to order.

1. **Approval of minutes from December 5, 2002-** A motion was made by Tom Vanaman to approve the minutes. Peter Huettl seconded and all approved. Motion passed at 12:07PM.

2. **Chemical Injury/Illness Report**
   Lee Poore presented chemical injury data for the first quarter. Corrections to title will be made. Todd Porter suggested the need for safety training of general and intro chemistry classes. Peter Crooks and Todd Porter initiated a discussion on fume hood alarms in COP and Combs not working. Discussed recent incident at COP and what to do if alarms don't work. OH&S will determine status of alarms in COP.

3. **Old Business**

- **UK Model Chemical Hygiene Plan on the web-** Members were informed the Model Chemical Hygiene Plan is now available on the web, http://www.uky.edu/Services/EHS/ohs/chp/welcome.html. Formatting issues involving page numbers are being addressed. OH&S will print 100 copies for new laboratories, while existing PI's will need to download the new version. An email will be sent to department chairs when formatting has been corrected. Suggested providing pdf format to fill out online.

- **Review Checklist for Personal Lab Safety-** Reviewed draft of checklist. Committee suggested changes. Lee Poore proposed idea of "Safety Cat" poster to display in laboratories, will work on design to present at next meeting. Discussed also making list a door sign to be included in the CHP.
- **Training Initiative- Agronomy-** Lee Poore is in the process of planning and conducting training for the department. Contact has been made with Jim Calvert, waiting on a final list of names to schedule.

- **New Lab inspection reports-** Lee Poore discussed new method of sending laboratory inspection reports via email Reviewed letter sent to department chair and a sample report.

4. **New Business**

   Eyewash/Shower project completion summary- Reviewed report for Ag North safety/eyewash showers. Discussed whether or not COP showers/eyewashes are being checked monthly by MCPPD. Requested review of data log.

5. **Adjourned**
   Tom Vanaman motioned to adjourn and seconded by Peter Huettl.

Chemical Safety Committee
Minutes of May 21, 2003

Present	**Absent**
Caroline Gil (Chair)	David Hibbard (Ex-Officio)
Meg Steinman for Doris Baker	Thomas Vanaman
Peter Crooks	
David Atwood	
Peter Huettl	
Daret St. Claire	
Todd Porter	
Harold Burton	
Lee Poore (Ex-Officio)	
John Lowry (Ex-Officio)	
Angie Renick	

Caroline Gil called the meeting to order at 12:04 PM.

1. **Approval of minutes from March 25, 2003-** Motion to approve made by Meg Stienman, seconded by Peter Huettl all approved.

2. **Chemical Injury/Illness Report**
   Report will be given next meeting.
   Contact with the introductory chemistry safety trainer has not been made. A report will be given next meeting.

3. **Old Business**
   Training initiative- Agronomy-Scheduled for June 5th

   Lab inspections- Lee Poore reported there have been 362 lab inspections done for the year 2003. There have been 142 CHP violation with 11 repeat violation. The question was asked about how this reflects in monetary violations if inspected by regulator. For OSHA it would $5,000 per serious and greater than that for repeats. As for hazardous waste violations there were 31 serious and no repeats. EPA assesses approximately $23,000 for each violation. Draft a letter from the committee to PI chair and dean for repeats. Lee will follow-up within a month of correction.

   Eyewash/shower project completion summary- Still in the process of completing project. Should be finalized by end of June.

   Update on Pharmacy fume hood alarms- Limited amount of money has been given to PPD to address some of the issues. A TSI face velocity monitor will be tested in room 417. An estimate to have alarms that will notify delta room when the fans go down is being obtained.

4. **New Business**
   No new business was discussed.

5. **Adjourned**
   12:55 PM

Minutes of the
General Safety Committee
FY 2002-03

General Safety Committee
Minutes of September 18, 2002

Members Present:		Members Absent:
Tomi Ross - Chair	Jan Hurley	Kwaku Addo
Greg Copley	Jack Applegate	Gerald Thomas
John Sampson	Garry Beach	Ben Crutcher
Vince Austin	Woody Bottom	Justin Rasner
Gus Miller	Robert Cadle	David Acker
James Wims	Don Thornton	Kenneth Clevidence
David Hoke	David Hibbard	Travis Manley

The meeting was called to order at 1:35 p.m. Committee members introduced themselves.

1. Approval of Minutes

   The minutes from the meeting of March 15, 2002, were approved.

2. Vice Chairperson

   The current chair and EHS staff agreed that a vice chairperson is needed to ensure that the work of the committee is accomplished. After discussion, the committee approved David Hoke as Vice Chairperson.

3. Bylaws Review

   Committee members reviewed the current bylaws and approved the following change.

   p. 3, Section D. #1, under Bylaws

   Change from:
   The Committee may submit approved recommendations to the Chair of the Committee on Environmental Health and Safety or the director of EH&S for action. The Committee may submit reports to the Committee on Environmental Health and Safety, the Vice President for Fiscal Affairs, or the director of EH&S for information.

   To:
   The Committee may submit approved recommendations directly to the entity having authority or jurisdiction to take action. The Committee will submit regular reports to the Committee on Environmental Health and Safety.

   This change was approved to facilitate prompt action on safety issues and concerns addressed by the committee.

In addition, all references within the guidelines and bylaws to the Vice President for Fiscal Affairs will be changed to the Vice President for Auxiliary & Campus Services.

4. Web Site

David Hibbard suggested that the committee develop a web page to facilitate and track committee business. EH&S will provide technical support and keep the web page updated. The committee approved this suggestion.

5. Old Business

- Curb cuts at Limestone and Waller—Bob Cadle indicated that the city had agreed to install curb cuts at Limestone and Waller and Limestone and Cooper. To date, no curb cuts have been installed. David Hibbard will ask Ken Clevidence, who negotiated the work with the city, to check on the status of this project.

- Stop sign at intersection of Complex Drive and University Drive—Before a stop sign can be installed, a traffic study is required. Don Thornton will request that Ben Carr fund the study and then coordinate the project with Kentucky Transportation Center.

- Clinic/Leader crosswalk—Within the next few weeks, construction will necessitate the temporary realignment of Limestone, a project that will run approximately 8 months. As a part of this project, barriers will be installed along this section of Limestone, requiring pedestrians to cross at one of the two cross walks. Gus Miller, Chancellor's Office, and Bob Williams, Project Manager, CPMD, will work with the city to ensure that the crosswalk light is extended to accommodate the increase in pedestrians at this location.

- Stop sign on service road—The stop sign on the service road that runs behind the Kelly Building was removed several years ago during construction and was never replaced. Tomi Ross will write a letter to Ben Carr, requesting that a stop sign be reinstalled at this location.

- Absence of sidewalk adjacent to VA Drive behind Animal Pathology—Jack Applegate indicated that this request was listed on a project list, but had not been prioritized or funded. Tomi Ross will request project funding from Ben Carr.

The committee discussed the need for a centralized office or position to oversee traffic issues at the university. Don Thornton indicated that this suggestion had been made as a part of the university's master plan.

6. Baseline Data, Goals, and Objectives

David Hoke suggested that the committee review data collected by EH&S to identify safety issues or areas for improvement within the campus safety program. The committee

agreed that such information would allow us to develop more goals and objectives, consistent with our mission. David Hoke and David Hibbard will work together to identify specific data and information to be presented at the next meeting.

7. Meeting Dates and Times

The committee agreed to meet on the Thursdays prior to the EH&S committee meetings. As a result, the meeting schedule is:

November 7, 2002, 1:30 p.m.
January 9, 1:30 p.m.
March 13, 1:30 p.m.

All meetings will be in the Mining and Minerals Resources Building. Exact location to be announced.

8. New Business

Bob Cadle (for Garry Beach) announced that under the Minger Act, employees who see or hear of a fire on campus are required to report it to the UK Police Department.

The meeting adjourned at 3:25 p.m.

General Safety Committee
Minutes of November 7, 2002

No quorum was present to complete business, the following informal minutes apply.

I. Old Business

a. Engineering Study - University and Complex Drive – was discussed in light of the opening of the new Johnson Recreation Center. It was decided to wait until foot traffic picked up along this area to review this topic.

b. Web Page Status – reported to be in process
c. Benchmark Data Status – no report
d. Curb cuts at Limestone and Waller – brief discussion on status and follow-up with the city. No progress
e. Clinic/Leader crosswalk – no discussion
f. Stop sign on service road – minimal discussion but a review of previous comments regarding funding for this type of initiative
g. Absence of sidewalk adjacent to VA Drive behind Animal Pathology – same as above

General Safety Committee
Minutes of March 13, 2003

Present:

David Hoke	Travis Manley
John Sampson	Lance Brooking
David Hibbard	David Hibbard
Vince Austin	Jeremy King
James Wims	Debbie Sipe
Kwaku Addo	Teri Strickland
Garry Beach	Woody Bottom
	Robert Cadle

1. The minutes of the November 7, 2002 meeting were approved.

2. *Web Site*

   a. *Action Item Log*

      David Hibbard presented a conceptual design of the GSC Action Log. The log is to allow tracking of issues brought forward to the committee for action. Consensus was to have the log posted to the GSC website and to be updated by UK Occupational Health & Health.

   b. *Electronic Voting*

      Committee was in agreement to pursue voting and issue input via computer means. Jeremy King, EH&S IT Support, discussed the viability of developing an electronic forum to accomplish this. David Hoke and David Hibbard will pursue with EH&S in developing this forum.

3. *Old Business*

   a. *Stop sign at intersection of Complex Drive and University Drive*

      The results of the Kentucky Transportation Center, College of Engineering evaluation were discussed. Concern was raised as to how the increase in traffic and pedestrian flow from the Johnson Center and increased capacity of PKS #1 would impact the pedestrian crossing issue at the location in question. Installation of flashing lights at the intersection was discussed. Lance Brooking cautioned the committee that these devices can give pedestrians a false sense of security when crossing. Traffic cannot be assumed to stop for pedestrians even with a flashing light at the crossing. Consensus was to revisit issue at second committee meeting of next FY after completion of PKS

#1 renovation. A request for reevaluation by Transportation Center, College of Engineering would be considered at that time.

b. *Curb cuts at Limestone and Waller*

David Hibbard to follow-up with Ken Clevidence on status of resolution.

c. *Clinic/Leader crosswalk*

Item closed. Construction work completed.

d. *Stop sign on service road*

Road affected was determined to be Veteran's Drive. David Hoke to write a letter to Ben Carr, requesting that a stop sign be reinstalled at this location.

e. *Absence of sidewalk adjacent to VA Drive behind Animal Pathology Building*

At a previous meeting, Jack Applegate indicated that this request was listed on a project list, but had not been prioritized or funded. David Hoke to write letter to Ben Carr requesting project funding.

4. <u>New Business</u>

a. *Renaming of Streets and Changing of University Street Signs*

Travis Manley shared with committee the problem with UK Police not being made aware of name changes associated with UK buildings and streets. This has potential for resulting in a delayed emergency response due to those requiring assistance providing ambiguous site locations to emergency responders. Garry Beach to contact Plant Assets to determine where building name notifications originate from. Garry Beach to relay information to David Hibbard who will then present to David Hoke for action.

Garry Beach, David Hibbard and Henry Huff will consult with administration on resolving renaming of streets.

b. *15-passenger Van Training*

Bob Cadle and David Hibbard shared with the committee its efforts in raising awareness of 15-passenger van hazards. Currently targeting groups for training. Initiative to address no new purchases of vans, driver certification, mandatory training of van drivers, warning tags, and removal of van rear seats has been presented to the EH&S Committee. Recommendations are being drafted and will be forwarded to administration for action.

c. <u>Solvent Storage Policy Emphasis</u>

David Hibbard and Garry Beach shared for awareness purposes the recent emphasis the EH&S Division has placed on the university's Solvent Storage Policy. The division is in the process of identifying and notifying those that have areas exceeding the limits set by the policy.

d. *Improvement of pedestrian sidewalk signage on west side of Limestone*

Concern raised that construction of BBSRB has resulted in closing of sidewalk in front of BBSRB construction site. Pedestrians have been observed walking in street against and with traffic. UK Occupational Health & Safety to evaluate current signage that reroutes pedestrian traffic away from area and contact CPMD Project Manager for action if required.

5. *<u>Adjourn</u>*

Minutes of the
Institutional Biosafety Committee
FY 2002-03

Institutional Biosafety Committee
Minutes of July 10, 2002

Members Present:
Judith Lesnaw
Kelly Breeding
Thomas Chambers
Charles Issel
Craig Jordan
John Q. Lowry
Susan Straley
Ken Dickey

Members Absent:
Jack Hiatt
Arthur Hunt
Peter Nagy
Brian Rymond
Anthony Sinai

PROTOCOL REVIEW

Nick J. Koszewski– Transcriptional Control of PTH Gene Expression

Action: Dr. Chambers moved and Dr. Straley seconded that the registration be **approved**. The motion carried unanimously.

Susheng Gan – Analysis and Use of Leaf Senescence-Associated Genes for Tobacco Molecular Farming
Comments:

1. Under attachment for safety precautions paragraph two; change "Clorox detergents" to "a freshly prepared 10% bleach solution for a minimum of 10 minutes".
2. Please provide a protocol for disposal of the transgenic plants you will produce.

Action: Dr. Issell moved and Dr. Dickey seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Deane L. Falcone -- Expression of Mammalian Receptors in Plant Cells

Deane L. Falcone – Genetic Manipulation of Secondary Product Regulation

Deane L. Falcone – Methods to Facilitate Enhanced DNA Uptake Into Tobacco Cell Nuclei

Deane L. Falcone – Natural Products Genomics
Comments:

1. One minor issue with all of your protocols was section III – animals used in project. There is a box that should have been checked does not apply. I have taken care of that issue for you.
2. Your project entitled "Expression of Mammalian Receptors in Plant Cells" you have checked no to question #2 in Section II – Project information, however your title includes the word "expression" and you have answer the question. Please clarify.
3. Please provide a protocol for disposal of the transgenic plants you will produce.

Action: Dr. Chambers moved and Dr. Issel seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Brett T. Spear – Gene Expression in Transgenic Mice
Comments:

1. Please provide a project summary, which clearly states that this approval is to cover transgenic core facility. The University has other core facilities and information on these will be sent to you.
2. Dr. Ken Dickey will send out via the "Lab Animal Line" a notice that any PI wishing you to make transgenic animals for them, must first provide you with IBC approval.

3. If no infectious agents are used the infectious agent registration form is not necessary.
4. Clarify in the title of project that this project is for a "transgenic Core Facility"

Action: Dr. Issell moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Vincent Gallicchio – Evaluation of Ribonecleotide Reductase Inhibitors as Potential Anti-Retroviral Agents

Comments:

1. In view of the infectious nature of the agent used in your protocol the Biosafety Level should be changed to BL2 and handled as such.
2. Please provide a detailed project summary, which will include the project description, experimental protocols, storage of the agent and training that is provided to all personnel, spill and emergency procedures.
3. Expand and clarify the decontamination of both liquid and solid waste.
4. Please note that all personnel involved with project should be listed on form and receive proper training

Action: No action taken until additional information has been provided.

Guo-Min Li – Role of Mismatch Repair in Hematological Diseases

Comments:

1. You have indicated on the infectious agent form that the project is a Biosafety Level I, however the virus is a BL2 and should be handled as such.
2. Please provide a description of how personnel will be trained in how this infectious agent is safely handled.
3. Please provide a spill and decontamination protocol. (If you give me a call 3-6280, I will provide you with an example of what the IBC would like).
4. Also, in a recent correspondence you indicated that you have been using human cell lines, please submit an application to cover your use of these cell lines.

Action: No action taken until additional information has been provided.

Jeffrey A. Moscow – Transport Gene Expression in Tissues, Tumors and Cell Lines

Comments:

1. Provide a detailed project description to determine sufficient experimental protocols to access safety concerns.
2. The cell lines and tumors to be used in your project please provide source (commercial/primary)
3. Expand your spill protocol with sufficient information for the committee.

Action: No action taken until additional information has been provided.

Nader Hanna – GV-001.004 A Randomized, Phase II, Study of TNFerade™ Biologic with 5-FU and Radiation Therapy for First-Line Treatment of Unresectable Locally Advanced Pancreatic Cancer. March 20, 2002 GenVec, Inc.

Comments:

1. One of the concerns addressed by the committee was that of the location where the drug would be administered to patients. Dr. Hanna has listed UK Hospital CT or Endoscopy Suite. If these rooms to be acceptable than Dr. Hanna will be issued approval of his project.
2. Also, the issue of the disinfectant for spills and clean up was discussed. There are inconsistencies in the protocol. You have listed that A456-N will be used, however the document from Department of Pharmacy list Virex. Please clear this issue up.

Action: Dr. Jordan moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Institutional Biosafety Committee
Minutes of August 14, 2002

Members Present:
Judith Lesnaw
Kelly Breeding
Jack Hiatt
Arthur Hunt
Charles Issel
Craig Jordan
John Q. Lowry
Anthony Sinai
Ken Dickey

Members Absent:
Thomas Chambers
Peter Nagy
Brian Rymond
Susan Straley

Protocol Review

No protocols were submitted for review. The committee was informed of all outstanding protocols.

Committee members were given a tour of the BL3 facility in HSRB.

Institutional Biosafety Committee
Minutes of September 2002

There was not a meeting of the IBC this month.

Institutional Biosafety Committee
Minutes of October 2, 2002

Members Present:
Judith Lesnaw
Kelly Breeding
Thomas Chambers
Kenneth Dickey
Arthur Hunt
Robert Jacob
Peter Nagy
Richard Wheaton
John Q. Lowry
Chuck Staben

Members Absent:
Jack Hiatt
Brian Rymond
Anthony Sinai
Glenn Telling

PROTOCOL REVIEW

David Hildebrand – Efficient Leaf Aldehyde Production
Comments:

1. On page two of RDNA form please be more specific describing the host and vectors.
2. Safety & Spill section needs to be more detailed, what type of strong detergents will be used. Also ethanol is not effective for decontamination. It is the recommendation of the IBC that a 10% freshly prepared bleach solution is used with a 10 minute exposure time.
3. Describe in detail the autoclaving procedure.
4. There is no mention of where plants are housed and how they will be contained and disposed of.
5. Also in the attachment Objective 2b. Transient…" reference is made to Co-PI Dr. Peter Nagy and his use of cucumber necrosis virus (CNV) however; there is no reference to this virus in the form. Also Dr. Nagy is not listed on page one of the RDNA form as a co-pi. Please clarify Dr. Nagy's role and clarify the site of the work. If Dr. Nagy is training his lab should be listed. Please provide a letter from Dr. Nagy agreeing to be part of this project.

Action: **No Action**. PI should address the above issues and resubmit for review at the next IBC meeting.

Craig Miller – Opportunistic Oral HSV: Mechanisms of Reactivation and Valtrex Preventive Therapy of Herpes Liaialis Associated with Dental Procedures
Comments:

1. Please resubmit the forms typed. Should be split into two protocols, providing one form for the valtrex study and a form and recombinant DNA form for the other study.
2. The information provided on forms has no relationship to the grant information provided.
3. It was reported to the IBC committee that this is actually paperwork for two studies. Please provide a summary of exactly what you are doing for both projects.
4. Safety precautions provided are inadequate.
5. Provide a certificate that anyone involved in the project has completed the blood borne pathogen training.
6. The nature of inserted sequence should be expanded also host & vectors should be clarified.
7. On the recombinant DNA form, section II, question two will experiments involve expression should be marked yes and the next question should be answered.
8. Section VI of the Infectious Agent Registration form human tissue should be checked.

Action: **No Action**. PI should address the above issues and resubmit for review at the next IBC meeting.
Hsing-Hsiung Tai – 15-Hydroxyprostaglandin Dehydrogenase and Lung Cancer
Comments:

1. On the safety precautions item #3 should provide more detail, example what will the areas be decontaminated with. It is the recommendation of the IBC that a freshly prepared 10% bleach solution be used with exposure time of 10 minutes minimum. This should be addressed on both projects.
2. Please provide more detail about the human lung adenocarcinoma A549 cell line.
3. The containment conditions should be changed from a BL1 to BL2 on both projects

Action: Mr. Breeding moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Hsin-Hsiung Tai – Prostaglandin Dehydrogenase and Prostate Cancer
Comments: The same comments above apply to this proposal as well.

Action: Mr. Breeding moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Dayong Gao – Immortalization of Human Renal Tubular Epithelial Cells for Kidney Bioengineeringing
Comments:

1. Since you are using a retroviral vector please submit an infectious agent registration form.
2. In the attachment you indicate that you will be using a biological safety cabinet, the room number where the cabinet is located is needed and the certification date on the cabinet needs to be provided.
3. The safety precautions attachment is too generic. Please provide specifics, what will be used for decontamination. Item #4 indications bleach disinfection with a 5% final concentration; it is the recommendation of the IBC that a freshly prepared 10% bleach solution be used.
4. There are numerous references in the safety protocol to transportation. Where specifically is work being done and how and what will be transported.
5. Provide blood borne pathogen training certificates for yourself as well as all other individuals involved in the study.
6. Do you have human subject's approval? If so please provide a copy of that approval letter.
7. Also, please provide a more detailed project summary on experimental methods and efficacy of safety measures.

Action: **No Action**. PI should address the above issues and resubmit for review at the next IBC meeting.

Jonathan Satin – Embryonic Cardiomyocyte Plasma Membrane Calcium Handling
Comments:

1. Provide a detailed project description to access safety issue.
2. Elaborate on safety precautions and include a spill protocol. Item #7 under the safety precautions should indicate that a freshly prepared 10% bleach solution be used for a minimum of 10 minutes.
3. Please provide the source of the monomeric G-proteins.
4. Please provide the source of the embryonic cells, are they human or rodent.

Action: **No Action**. PI should address the above issues and resubmit for review at the next IBC meeting.

S. Randal Voss – Tenome Resources for Model Amphibians
Comments:

1. On page four of the application section III – safety precautions, please remove the reference to 70% ethanol. Please replace with a freshly prepared 10% bleach solution for a minimum of 10 minutes.
2. Also remove the reference to UV radiation; it is not suitable for this work.

Action: Mr. Breeding moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Institutional Biosafety Committee
Minutes of November 13, 2002

Members Present:
Judith Lesnaw
Thomas Chambers
Jack Hiatt
Arthur Hunt
Robert Jacob
Richard Wheaton
John Q. Lowry
Chuck Staben
Anthony Sinai

Members Absent:
Kelly Breeding
Peter Nagy
Brian Rymond
Kenneth Dickey
Glenn Telling

PROTOCOL REVIEW

Jonathan Satin - Embryonic Cardiomyocyte Plasma Membrane Calcium Handling was originally reviewed at the October IBC meeting. Revisions requested have been addressed and approval was granted.

Action: Dr. Chambers moved and Mr. Wheaton seconded that the registration be **approved**. The motion carried unanimously

Jonathan Satin - Mechanisms of Long-Term Ion Channel Regulation
Comments:

1. Submit an infectious agent registration form.
2. Provide a letter from Doug Andres clarifying his role in the study.
3. Clarify where and by whom the plague assays and purification are performed.
4. Provide the maximum concentration of the vector to be used.

Action: Dr. Chambers moved and Dr. Sinai seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

M. Chris Langub – UK GCRC Approved Protocols
Comments:

1. Amend section regarding UV sterilization so that it states all materials will not be removed from the biosafety cabinets unless they are decontaminated.
2. With regard to the Elisa plates do not dry in an open biosafety hood but decontaminated immediately when finished in a Clorox bath.
3. Provide an overview of the operation of the GCRC facility. Where are samples coming from? Who are your clients? Do you clients have IBC approval? Do samples come from outside the university?

Action: Dr. Chambers moved and Dr. Hiatt seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

Jurgen Rohr – Novel Acid Anticancer Drugs/Augucycline-Derived Antitumor Drugs
Comments:

1. Please refer to Hazardous Materials Management webpage (www.uky.edu/Services/EHS/hmm/rdnaform.doc) to download and TYPE the application. The committee could not read your handwriting.
2. You have indicated that you do not have a copy of the NIH Guidelines, those guidelines can be downloaded at http://www4.od.nih.gov/oba/. If you are unable to download, please let me know and I will download for you and send to you.
3. Please provide a project description with enough information for the committee to discern what the project is about. Please don't just submit pages from your grant with sections highlighted.
4. Also biohazards signs are required. Also on your general safety practices in lab you have indicated that biohazards signs will be posted when the university provides, this is unacceptable. If you need signs please contact the Hazardous Materials Management office at 323-6280.
5. Please provide a detailed spill protocol.

6. All personnel involved in the project should be listed on page one of the recombinant DNA form. There are individuals listed on the pages of your grant application that are not on listed on page two. Please clarify.

Action: Dr. Sinai moved and Mr. Wheaton seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are the items listed above.

Daniel J. Noonan – Dissecting the Molecular Pathology of LAM Disease
Comments:
The committee noted that the form was in good shape. The only issue discussed was if the biohazards were identified on the biohazard signage.

Action: Dr. Jacob's moved and Dr. Sinai seconded that the registration be **provisionally approved**. The motion carried unanimously. The provision is the items listed above.

Daniel J. Noonan – Targeting Retinoic Acid Treatment of Lung Cancer
Comments:

1. One of the issues was of human lung tissue; is it fixed.
2. If tissue is fresh unfixed tissue then please submit an infectious agent registration form. Protocol should be operated under BL2 conditions applying universal precautions.
3. Personnel should have blood borne pathogen training.
4. On section 6 abstract how was the human homolog identified.
5. Remove reference to transgenic mouse facility as Dr. Ken Dickey informed the committee that you do not use animals for this study.

Action: Dr. Jacob's moved and Dr. Sinai seconded that the registration be **provisionally approved**. The motion carried unanimously. The provision are the items listed above.

Stephen Testa – Development of Novel Catalytic RNA Reactions
Comments: The committee noted that this was very interesting study. No problems were noted.

Action: Dr. Sinai moved and Dr. Jacobs seconded that the registration be **approved**. The motion carried unanimously.

John R. Yannelli – CTL Defined Antigens in Non-Small Cell Lung Cancer
Comments: The committee also requested that Mr. Lowry and Ms. Quisenberry send all protocols back to PI's that were not typed.

1. Resubmit application typed.
2. Also an infectious agent registration form is needed.
3. Safety precautions and spill plan must be printed out.
4. Provide a detailed project description with sufficient detail to determine what is being done.
5. If you are using human tissue your protocol requires a BL2 specification. Apply university precautions and have all personnel involved in take the blood borne pathogen training.

Action: Dr. Hunt moved and Dr. Hiatt seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are the items listed above.

George Smith – Gene Therapy for Spinal Cord Regeneration
Comments:

1. Provide a detailed project summary.
2. Page two, section II – "Host strain" needs to be clarified. What you have listed is not a host strain. What are you growing the virus in?
3. You have referred to Rocol, Ethanol and UV light for decontamination in the attached safety procedure when using adenovirus. These methods are not acceptable for decontamination. 0.5% sodium hypochlorite solution should be used. Please amend.

4. The safety precautions attached to the recombinant DNA form should be changed to reflect 0.5% sodium hypochlorite as well.
5. The reference to animal injections done in a designated surgical room under construction is not appropriate. No work should be done until a designated room has been inspected by the Biosafety Officer.

Action: Mr. Wheaton moved and Dr. Hunt seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are listed above.

Michael Gooding – Characterization of a Plant Rhabdovirus, Sonchus Yellow Net Virus (SYNV)
Comments:
1. Please provide a project summary.
2. On page two source of the DNA please specify the virus "SYNV cDNA clone".
3. Describe how you will dispose of transgenic plant materials.

Action: Dr. Chambers moved and Dr. Sinai seconded that the registration be **returned for minor revisions**. Once the revisions are received Judith Lesnaw and John Lowery will review and recommend approval. The motion carried unanimously. The revisions are the items listed above.

Thomas Chambers/Judith Lesnaw – The Role of Arginine in Virus Replication

Said A. Ghabrial – Molecular Basis of Diversity and Symptom Severity in the Comovirus Bean pod mottle virus
Comments:
1. Please provide a detailed project summary.
2. Page two under sources of the DNA please be more specific.
3. Describe disposal of infected plants and beetle material. How will beetles be contained?
4. Provide an infectious agent registration form.
5. Upgrade containment conditions from a BL1 to BL2.

Action: Dr. Sinai moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions listed above.

Subbarao Bondada – Retroviral Transduction of Murine Lymphocytes
Comments:
1. Provide a recombinant DNA form.
2. Discuss potential of reactivants and how you would assay for it.
3. Clarify how the virus is grown and what is the host.
4. Describe the phoenix cell line and the virus titeo (concentration and volume) expected and describe how the experiments will be done.
5. Provide a letter from Dr. Jordan stating that he provided the training. Also please provide the training materials which were used.

Action: Dr. Sinai moved and Dr. Chambers seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are listed above.

Institutional Biosafety Committee
Minutes of December 11, 2002

Members Present:
Judith Lesnaw
Robert Jacob
Richard Wheaton
John Q. Lowry
Chuck Staben
Peter Nagy
Anthony Sinai
Kenneth Dickey
Glenn Telling
Anthony Sinai

Members Absent:
Kelly Breeding
Thomas Chambers
Jack Hiatt
Arthur Hunt
Brian Rymond

COMMITTEE BUSINESS

Dr. Lesnaw thanked members of IBC for attending the review session of the IBC. Dr. Robert Hashimoto told us about new federal regulations, then meet and reviewed our processes. He has submitted a full critique of our program to Harry Enoch. The critique will be shared with the committee at the next meeting.

Review of Protocols from November 13, 2002 Meeting

Subbarao Bondada – Retroviral Transduction of Murine Lymphocytes

Comments:

1. On the recombinant DNA registration form containment conditions should be changed to BL2.
2. On page two of RDNA form under the hosts and vectors you state that a variety of commonly used plasmid vectors will be used. Please be specific and list the vectors.
3. In reference to your safety precautions it is not sufficient to print out the boilerplates from the IBC webpage. Revise safety precautions section to give details of decontamination and to make consistence with BL2 practices. Sealed centrifuge tubes should be used and filled in the Biological Safety Cabinet. Specify the method of decontamination (IBC recommends 0.5% Na hypochlorite) and protective clothing.

Action: Dr. Sinai moved and Mr. Wheaton seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

George M. Smith – Gene Therapy for Spinal Cord Regeneration

Comments:

On the Recombinant DNA Form

1. All animals are house under the recommendation of the animal resource facilities, Room MA81.
2. The above sentence should read: All animals are housed in an AAALAC accredited facility, managed by the Division of Laboratory Animal Resources, Room MA81.
3. All animals will be housed following the recommended protocol; this includes protective cage covers, *sterilization of bedding and cages after use.* **IS listed in protocol 491M2002.**
4. Tetanus immunization: repeated for personnel receiving an animal bite if the original tetanus immunization is more than 3 years old?? Waiting for Health Service reply as to whether this is actual UK policy.

Safety Procedure When Using Adenovirus

1. Under your safety procedures item one you have stated that Rocol and UV lights will be used for cleaning the hood. If you will be using Rocol please provide information as to its effectiveness for killing adenovirus. Also, it is not recommended that UV lights be used for cleaning.

2. What needles are being cleaned with SDS? What is SDS? What concentration of SDS is used?
3. Sodium hypochlorite or Na hypochlorite not 'ide' or Clorox
4. Not Rocol, it is Rocal, or chlorhexine. What % solution?

REVIEW OF PROTOCOLS

November 13, 2002 Meeting:
Baochun Li – Evaluation of Wild Nicotiana Species for Resistance to Blue Mold Via Root Inoculation
Comments: The IBC will not consider this application for review until a biosafety cabinet is acquired by the investigator.

PROTOCOL REVIEW

Kellum, Rebecca – Chromosome Structure and Function in Drosophila
Comments: One of the main issues discussed was the containment of the flies. Following is the revisions/clarifications requested by the committee:

1. On page one of the recombinant DNA form, section II, question two "Will experiments involve a deliberate attempt to obtain an expression of a foreign gene?" should be marked yes.
2. Page two of the form; list the specific hosts and vectors to be used.
3. Transgenic flies must not be released into the environment. Please provide to the committee your containment procedure of transgenic flies during the course of the experiment.
4. In the safety precautions section all references to bleach should be changed to "final concentration of .5% sodium hypochlorite.
5. In paragraph two of safety precautions you reference a self-assembled spill and decontamination kit, please specify the composition of the spill kit.
6. Sharps and non-sharps must not be placed in the same containers. A red plastic sharps container should be obtained and used for the sharps.
7. Specify the temperature and specific conditions for autoclaving that effectively kill your material, and that will be therefore used.

Action: Mr. Wheaton moved and Dr. Sinai seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are the items listed above. All agreed.

Rawls, John – Drosophila Genetic Analysis
Comments:

1. Transgenic flies must not be released into the environment. Please provide to the committee your containment procedure of transgenic flies during the course of the experiment.
2. Specify host and vectors to be used.
3. The safety precautions are too vague. Decontamination and waste disposal procedure should be specific to your experiment or agent for which you work. (i.e., chemicals used method of decontamination, autoclaving procedure).

Action: Dr. Sinai moved and Dr. Telling seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are the items listed above. All agreed.

McClintock, Timothy – Functional Domains and Expression of Olfactory Receptors

Comments: It was noted that a recombinant DNA registration form be submitted before protocol can be reviewed by the committee.

Action: Returned for additional form.

Ko, Chemyong – Gonadotropin and Steroid Hormone Action in the Ovary

Comments:

1. Provide to the committee a recombinant DNA Form.
2. Provide a project summary with sufficient detail for committee to assess safety issues.
3. If a second site is to be used, site must be listed on form.
4. The safety precautions are too vague. Decontamination and waste disposal procedure should be specific to your experiment or agent for which you work (i.e., chemicals used method of decontamination, autoclaving procedure).

Action: Dr. Telling moved and Dr. Sinai seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are the items listed above. All agreed.

Westneat, David – Studies of Social and Reproductive Behavior in House Sparrows Carrying West Nile Virus

Comments: Sampling birds for the presence of west nile virus, sometimes he looks at dead birds and sometimes live birds; project has been going on for some years. After a lengthy discussion the following information/clarification has been requested from the PI:

1. Provide blood born pathogen-training certificates for all individuals involved in study.
2. Protocol for handling birds item I. A, states that "gloves should be worn". This should be changed to state that gloves will be worn; gloves should be either leather or puncture resistance Protocol for handling birds item I. C, states that "gloves should be worn". This should be changed to state that gloves will be worn; gloves should be either leather or puncture resistance type glove.
3. Protocol for handling birds item I. F, please provide % of DEET worn by field workers.
4. A form should be established for workers to sign off on who refuse to wear the DEET in the fields.
5. Please provide to the IBC the precautions taken when handling birds, i.e. what type of protective equipment is used, how blood samples are transported to the lab.
6. The biosafety cabinet in room 300E is not a certified biosafety cabinet. No certification date is on the hood. Please have Dr. Steiner contact Agapi for certification.

Action: Mr. Wheaton moved and Dr. Sinai seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are the items listed above. All agreed.

Institutional Biosafety Committee
Minutes of January 24, 2003

Members Present:
Judith Lesnaw
Kelly Breeding
Thomas Chambers
Jack Hiatt
Robert Jacob
Richard Wheaton
John Q. Lowry
Chuck Staben
Anthony Sinai
Kenneth Dickey
Glenn Telling
Anthony Sinai
Harry Enoch

Members Absent:
Peter Nagy

COMMITTEE BUSINESS

Dr. Enoch introduced the new Biosafety Officer, Marcia Finucane. He also reported on the new adverse event reporting form for human gene therapy trials. The IRB has been working on a form that would work for both our Committee requirements as well as the IRB committee.

John Lowry did a brief overview on the new Select Agent Compliance Issues. A handout was given to the committee that was presented to Ben Carr and that would be presented to the new Vice President for Research. At this time there are three to four people at the University Of Kentucky who are in possession of a select agent.

PROTOCOL REVIEW

Haining Zhu – Proteomic Studies of Amyotrophic Lateral Sclerosis
Comments: It was noted that there were a few changes needed to the protocol:

1. Under section II – project information that the question, "will experiments involve a deliberate attempt to obtain an expression of foreign genes", should be marked yes and that the gene be listed.
2. In the safety protocol, the P.I. has used 10% bleach as referenced on the IBC webpage; it should be changed to 0.5% hypochlorite. It was decided by the committee that this was a minor issue and that this could be corrected by Ms. Quisenberry.

Action: Mr. Breeding motioned and Dr. Hunt seconded that the protocol be approved and that Ms. Quisenberry make the changes and return a changed version of the protocol to the investigator. All agreed.

Mark Williams – Peptide Deformylase: A Novel Herbicide Target Amenable to Genetically Engineering Tolerance
Comments:

1. Provide specific details on housing, containment, decontamination and disposal of transgenic plant material.
2. Modify the outline of safety precautions as follows:
3. Point 5 – replace 1:10 dilution of bleach with freshly prepared 0.5% sodium hypochlorite.
4. Same point, either delete antibacterial soap or specify the soap and provide evidence of its efficacy for the agent being used.
5. Point six delete the reference to gloves. Latex gloves are not a protector against puncture injuries.

Action: Dr. Sinai moved and Dr. Telling seconded that the registration be **returned for extensive revisions**. The motion carried unanimously. The revisions are the items listed above. All agreed.

Jiao Zhang – Isolation of Dominant Negative Gag-Poll Mutants

Comments: The committee did not have enough information to determine safety issues. Also an infectious agent registration form is needed as well as a lay summary. Protocol was returned to PI for a completed application packet. Dr. Lesnaw and Marcia Finucane will visit Dr. Zhang to explain these issues and to work with him on his application.

Pradeep Kachroo – Development and Analysis of Transgenic Plants for Improving Disease Resistance

Comments:

1. Please fill out an infectious agent registration form since you are working with viable viruses. You may download the form at: www.uky.edu/Services/EHS/hmm/iaform.doc
2. On the first page of the Recombinant DNA registration form, section II "will experiments involve a deliberate attempt to obtain an expression of a foreign gene"? Change to yes and fill in the protein.
3. You have specified a containment level of BL1, please clarify this. Several attempts were made to the USDA & APHIS website to determine the containment level, each attempt the websites were unavailable. Please provide how you made this determination.
4. Section III – Safety Precautions – Laboratory Safety Procedures, Point #3 you provide your specific practices on the following page but please add the following under point one: provide the concentration of TSP, its efficacy for decontaminating the agents being used, and the safety of this disinfection for lab personnel. Also, regarding washing hands with soap and water please provide details of the specific soap and the efficacy against these agents.
5. Point #5 please provide specific conditions for autoclaving. (pressure temperature and time). Add conditions suitable for complete decontamination of large loads that include soil.
6. Elaborate specific conditions, practiced in your lab regarding spills.
7. Provide specific details on housing, containment, decontamination and disposal of transgenic plant material.

Action: Protocol was returned to PI for revisions.

Timothy McClintock

Comments: Protocol looks fine as resubmitted, with the exception of the reference to 10% bleach, it was noted that the protocol could be changed to 0.5% sodium hypochlorite.

Action: Dr. Dickey motioned and Dr. Chambers seconded that the protocol be approved and that Ms. Quisenberry make the changes and return a changed version of protocol to the investigator. All agreed.

Rohr

Comments:

1. Please provide a lay summary and a separate scientific summary that contains sufficient detail for the IBC to assess safety issues. The committee could not determine from the information received what was being done with the RDNA.
2. The template on the web site for safety and spill protocols is generic. Please modify these procedures to be more explicit for working conditions in your lab.
3. The University's new Biosafety Officer, Marcia Finucane will contact you to set up an appointment to help expedite your application, or feel free to contact her by email at: mfinu2@email.uky.edu or telephone 257-1049.

Action: Protocol was returned to PI for revisions.

Miller--Opportunistic Oral HSV: Mechanisms of Reactivation
Comments:

1. Please outline what work is carried out in each of the four labs specified (MN446, MN448, HSRB 160, and MN356). Indicate which of these rooms has a biological safety cabinet and provide certification date for all.
2. Under section II of the infectious agent registration form, "Host Strain(s) used in this study," please put in 293 cell lines.
3. Safety precautions provided with both the infectious agent and recombinant DNA registration forms, point #7 and point #8, please specify how work surfaces are decontaminated. It is the recommendation of the IBC that a freshly prepared solution of 0.5% sodium hypochlorite be used for a minimum of 10 minutes.

Miller--Valtrex Preventive Therapy of Herpes Labialis Associated with Dental Procedures
Comments:

1. Please outline what work is carried out in each of the four labs specified (MN446, MN448, HSRB 160, and MN356). Indicate which of these rooms has a biological safety cabinet and provide certification date for all.
2. What location will the patient samples be taken, how will they be transported and where will they be transported (include type of container used for transport).
3. Safety precautions point #7, please specify how work surfaces are decontaminated. It is the recommendation of the IBC that a freshly prepared solution of 0.5% sodium hypochlorite be used for a minimum of 10 minutes.

Action: Dr. Telling moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above.

MODIFICATION REQUEST

Robert Perry & Susan Straley

Dr. Straley & Dr. Perry were invited to join the meeting to answer questions from the committee. It was explained to the committee that this revision was being requested because the BL3 facility is up and ready. Dr. Perry made changes to his protocol modification and it was approved by the committee. Dr. Perry was also asked to update his existing rDNA and infectious agent protocols and he agreed. Drs. Straley & Perry were questioned about the aerosol inoculation equipment to be used in the BL3 facility. They suggested that someone from the IBC be present when the PI's are trained on the use of the equipment before the final purchase is made. This will enable the IBC to present any questions it may have about the safety of the equipment and the protocols to be used with this equipment.

Institutional Biosafety Committee
Minutes of February 12, 2003

Members Present:
Judith Lesnaw
Kelly Breeding
Thomas Chambers
Jack Hiatt
Robert Jacob
Richard Wheaton
John Q. Lowry
Glenn Telling
Art Hunt
Harry Enoch
Marcia Finucane

Members Absent
Chuck Staben
Anthony Sinai
Kenneth Dickey

COMMITTEE BUSINESS

Dr. Enoch informed the committee that Dr. Ronald M. Atlas, Dean of the Graduate School, University of Louisville will present a seminar on "National Security and the Biological Research Community" on March 4, 2003. He encouraged all members of the IBC to attend this seminar.

Drafts of proposed new Registration Applications were distributed to the committee for their review and comments. It was requested that the committee look over the forms and provide their comments back to Ms. Finucane.

PROTOCOL REVIEW

Pradeep Kachroo – Development/Analysis of Transgenic Plants for Improving Disease Resistance (B03-245E.)

Comments:

This protocol was moved up on the agenda because the PI was invited to the meeting to answer questions about the study. The project is written as a BL1 protocol but the forms that are attached list organisms that are BL2 classified. Dr. Kachroo explained that he was slated to move to a new lab, which is not ready yet and he included all the work he plans to do into this one protocol. The committee asked that he remove all the BL1 work from the protocol, so that he may start work ASAP. The BL2 work will need to be submitted again and the PI was asked to send a project description as well. Dr. Kachroo was excused from the meeting and discussion continued.

Action: Motion was made by Mr. Breeding and seconded by Dr. Jacobs that Dr. Kachroo submit to Ms. Finucane all **BL1 work** so that he may **start work immediately**. The PI should resubmit the BL2 work for review. Peter Nagy abstained. The motion carried unanimously. All agreed.

Jurgen Rohr – Novel Aureolic Acid Type Antitumor Agents; Angucycline-derived Antitumor Drugs

Comments: The following is a list of revisions/clarifications requested from the PI:

1. A statement of specific Streptomyces species being used
    a. The form states "various other Streptomyces"; you mention *Streptomyces griseoflavus* Go 3592 and *Streptomyces argillaceus* in your research proposals
    b. Are those the two species that will be worked with? If not, please send BSO a complete list, as NIH has an "exempt list" that needs to be consulted
2. Which cell lines will be used to assess:
    a. the antitumor activity of gilvocarcin

b. the inhibition of gene expression in human cancer cells
c. effects on growth and viability of normal and cancer cells
d. activity against osteoclast-mediated bone resorption

3. Where is the work with the cell lines to be done?
4. Please send BSO a list of the E.coli/Streptomyces shuttle vectors you intend to use and the source
5. If you have any articles or references that address the "pathogenic potential" of the Streptomyces species and strains you will be working with, please send them to the BSO

Action: Dr. Hunt moved and Dr. Chambers seconded that the registration be **provisionally approved**. The motion carried unanimously. The provisions are the items listed above. All agreed.

Brain Stevenson – Relapsing Fever Borrelia Protein Expression (B03-243)
Comments: It was noted that the experimental protocol was missing.

Action: Mr. Breeding moved and Dr. Chambers seconded that the Ms. Finucane request the experimental protocol from the PI, and that **approval** be issued. Robert Jacob and Glenn Telling abstained. The motion carried unanimously. All agreed.

Steven Post – Role of Class A Scavenger Receptors in Diabetes-Enhanced Atherosclrosis (B03-244)
Comments: Dr. Post will be working in the Adenovirus Core Facility under the supervision of Dr. Susan Kraner. It was noted that there was no lay summary or experimental protocols.

Action: Mr. Wheaton moved and Dr. Telling seconded that Ms. Finucane request the experimental protocol and a more complete lay summary from the PI and that the registration be **approved**. The motion carried unanimously. All agreed.

Institutional Biosafety Committee
Minutes of March 12, 2003

Members Present	Members Absent
Judith Lesnaw	Glenn Telling
Thomas Chambers	Peter Nagy
Anthony Sinai	
Arthur Hunt	
Chuck Staben	
Robert Jacob	
Kelly Breeding	
Richard Wheaton	
Andrew J. Hiatt	
Ken Dickey	
Marcia Finucane	

COMMITTEE BUSINESS

Approval of Minutes – January 24, 2003
Minutes of February 12, 2003 and March 12, 2003 meetings to be e-mailed to members for review, correction.

PROTOCOL REVIEW

New Protocols

Nader Hanna – A Phase II, Multi-Center, Single Arm Evaluation of Preoperative Chemoradiation Plus TNFerade™ Biologic (Ad_{GV}EGR.TNF.11D) Prior to Esophagectomy for Locally Advanced Resectable Esophageal Cancer. GV-001.005. GenVec, Inc.
Comments: Items to correct:
IBC Infectious Agent Registration Form:

1. Page three "Routes of Inoculation": Clarify that ultrasound is used to find the tumor and then the tumor is injected with needle and the TNFerade is delivered with the needle.
2. Page five "Section VI – Use of Human Blood…"
3. Tissue should be checked off and provide tissue type (esophageal).
   List source: tumor tissue
   Material used for: esophageal tissue? simply disposed of ? pathology, histology?
   The disposal of excised tumor tissue should be addressed.

Infection Control Requirement Form:

4. Throughout the document the word "should" is used, please replace with "will".
5. Same form under employee health: it is stated that training will be provided, please provide a copy of all training materials used or let BSO attend a training session; name(s) of persons giving the training.
6. Same form page 2 section on patient management bullet number 4 please change to state that when expressing liquid from the syringe that expression will be done into gauze to contain any possible creation of an aerosol, the gauze is then disposed of in the biohazard waste.

Action: Tom Chambers moved for **provisional approval**, Anthony Sinai seconded, the vote was unanimous. Judith Lesnaw and Marcia Finucane to get the corrections and then full approval to be given.

Previously reviewed

Westneat, David – Studies of Social and Reproductive Behavior in House Sparrows Carrying West Nile Virus **–** Previously reviewed December 11, 2002
Comments:
Dr. Westneat arrived to meet with the committee at 1pm, and the committee met with him at 1:30pm.
The committee questioned Dr. Westneat about how the blood samples were taken from the birds (needle punctures the brachial artery, mylar-coated capillary tube takes up the blood, expelled into plastic test tube with bulb, test tube closed), what species of birds were sampled (whatever is caught in the net are sampled and then released), how the samples are processed in the lab (centrifuged on bench top, serum and cells separated and frozen in locked -80^{o}C freezer), what happens to dead birds (collect, cloacal swab taken, disposed of in a biohazard bag, taken to lab and bag is autoclaved). Discussion about the use of a biological safety cabinet by Dr. Westneat and the CDC guidelines for diagnostic work with animals that may be infected with West Nile Virus (RG3 agent, work in BSL2 plus BSL3 airflow conditions into the lab, lab vented to the outside and BSL3 work practices; handout provided to members by BSO about this). Personal protective equipment for field work discussed. Also discussed, ways to prevent contamination when centrifuging (sealed rotor, O-ring sealed tubes), R. Wheaton to fax Dr. Westneat information about this. Facilities that meet BSL2+ conditions and other options to meet those conditions (Dr. Ken Dickey's animal facility, clean room tent, Dr. Steiner's lab in Hunt-Morgan, Gluck, Spindletop, BSL3 facility in HSRB).

Action: Ken Dickey moved and Richard Wheaton seconded that Dr. Westneat's protocol be granted **provisional approval** now, to be changed to full approval when the following conditions are met:

1. suitable BSC obtained, either temporarily or permanently, for the processing (especially the centrifuging) of blood samples
2. a sealed rotor centrifuge and O-ring sealed tubes used to spin down the blood samples
3. details of blood processing to be added to protocol
4. release form for personnel to be changed to cover Deet application and omit other language, submit to Katherine Adams, legal counsel for review

Provisional approval unanimously voted.

Renewal

Robert Perry – Yersinia pestis – Mechanisms of Pathogenesis and Discovery of Antimicrobial Therapies and Vaccines
Comments: This study is an ongoing study for Dr. Perry, he was asked to renew the application since it was originally reviewed over three years ago. The committee requests clarification on the following issues:

1. Does the presence of the various *Yersinia pestis* homologues inserted into the avirulent *E.coli* and Salmonella strains increase the virulence of these strains? Please specify which *Y. pestis* genes will be inserted. The concern is that these insertions may increase the biosafety level to BSL3.

2. Will you be using all of the microorganisms you submitted forms for with the Yersinia protocols? It appears that you are using only the Yersinia, Salmonella and E. coli strains. If this is the case, submit a separate protocol for the other microorganisms stating that these are in the freezer but not being used at this time. If in the future, the other bacteria will be used, submit specific protocols.

3. Please check the biosafety level for all of the organisms you submitted. Several that you designated as BL-1 are listed in the American Biological Safety Association list of risk groups as BL-2. http://www.absa.org/resriskgroup.html

4. Please state the source of the cell lines to be used. The concern is with the use of primary cell cultures from humans. If they are from ATCC, please give the ATCC number.

5. Please address the infectious dose for **humans** on all the microorganism's forms.

6. Indicate that the *Salmonella typhimurium* will be used in the BL3 facility to test the system before the facility is scaled up to handle the BL3 agents.

7.Change the use of 10% bleach for decontamination to 0.5% sodium hypochlorite.

Action: Arthur Hunt moved and Robert Jacobs seconded that **provisional approval** be issued. All agreed.

Previously reviewed

Mark Williams – Peptide Deformylase: A Novel Herbicide Target Amenable to Genetically Engineered Tolerance **–** Previously reviewed January 24, 2003
Comments:
Marcia Finucane provided the committee with the requested information from the PI concerning the safety protocol.

Action: Richard Wheaton moved and Kelly Breeding seconded that protocol be **approved**. All agreed.

The meeting was adjourned at 3:20 pm.

Institutional Biosafety Committee
Minutes of April 9, 2003

Members Present	Members Absent
Judith Lesnaw	Kelly Breeding
Thomas Chambers	Peter Nagy
Anthony Sinai	Chuck Staben
Arthur Hunt	
Glenn Telling	
Robert Jacob	
Richard Wheaton	
Andrew J. Hiatt	
Ken Dickey	
Marcia Finucane	

COMMITTEE BUSINESS

Approval of Minutes – Minutes of February 12, 2003 and March 12, 2003 meetings

Conflict of interest: The committee discussed what constituted a conflict of interest for committee members regarding protocols that come before the committee. A conflict of interest is considered to exist when an IBC member has direct involvement in the research or if the member believes a conflict exists. Research protocols from departmental colleagues do not necessarily represent a conflict of interest. Tom Chambers moved to accept this definition and was seconded by Andrew Hiatt, the vote was unanimous.

PROTOCOL REVIEW

New Protocols

Julie Ribes – Identification and Quantification of *M. tuberculosis* in Archival Tissue Samples – Registration Number **B03-253**

Comments: The committee discussed the issue of whether the clinical laboratory 's facility met BL3 critieria, and **deferred review** until the BL3 committee is consulted. The committee **returned the protocol to the PI** asking for more information on the following items:

1. Is the BL3 facility certified by any agency? If so, please provide documentation and the criteria they used to certify it.
2. Obtain a 4th edition of the BMBL or if you have access to it in the clinical lab please add that to your application
3. State what training the volunteer has
4. Send a copy of the SOP safety procedures you refer to in your safety protocol
5. Use a biological indicator of efficacy for each autoclave load of BL3 waste material, add this to the safety protocol

Gail Brion – ERTL Environmental Research and Training Laboratory Core Facility - Registration Number **B03-252**

Comments: Make the following changes:

1. Statement that sealed rotors will be used in the floor model and bench top centrifuges
2. Addition of a more effective disinfectant than 70% ethanol when decontaminating work surfaces after working with or after spills with Cryptosporidium or Giardia.

Action: Ken Dickey moved for **provisional approval**, pending receipt of the revised protocol, Anthony Sinai seconded. The vote was unanimous.

Eric J. Smart – HIV Protease Inhibitors and Atherosclerosis - Registration Number **B03-254**

Comments:

Additional information needed:

1. Where is the blood going to be drawn (specific building and room)?
2. Who will be drawing the blood?
3. How will it be transported to the laboratory?
4. State that all manipulations of the blood will be done in the BL3 facility, and none at the site of the blood drawing
5. On page 9, #12: decontamination of the hemacytometer will be with 10 minute emersion into 0.5% NaOCl and then rinsed with clean water
6. On page 11, 2.c: use only Bacdown hand soap to decontaminate hands; remove the 70% ethanol rinse (the alcohol rinse may actually be counter-productive)
7. On page 10, #5: samples will be stored in the -80oC freezer in the BL3 facility
8. According to the CDC's Biosafety in Microbiological and Biomedical Laboratories (BMBL), p. 171, #2, this work can be performed under BSL-2 conditions using the additional practices and containment equipment recommended for BSL-3.

If you decide to work using BSL-2 plus conditions, please submit the modifications to the committee.

Action: Tom Chambers moved for **provisional approval** , pending receipt of the information and changes, Glen Telling seconded. The vote was unanimous.

Ricardo Bessin-- Evaluation of experimental Bt-corn lines for black cutworm and European corn borer resistance Registration Number **B03-256**

Action: Glenn Telling moved for **provisional approval** pending receipt of the appropriate APHIS and USDA permits, Richard Wheaton seconded, the vote was unanimous.

PROTOCOLS PREVIOUSLY REVIEWED

Jiayou Zhang – Isolation of Dominant Negative Gag-Pol Mutants
Previously reviewed January 24, 2003 - Registration Number **B03-255**
Comments: Make the following changes:
1. On page 4, in the Lay Summary add the cell lines that will be used to express the Gag-Pol protein.
2. On page 4, in the Lay Summary, change "mutated HIV" to "mutated pLP1"
3. Attach pages 9-17 as an appendix.
4. If the project develops to the point where viable HIV virus will be used please submit an Infectious Agent form to the IBC

Action: Anthony Sinai moved for **provisional approval**, pending receipt of the changes, Robert Jacob seconded, the vote was unanimous.

REPORT ON PROVISIONAL APPROVALS

Craig Miller – Opportunistic Oral HSV: Mechanisms of Reactivation – Registration Number **B03-250. Final approval granted.**

Craig Miller – Valtrex Preventive Therapy of Herpes Labialis Associated with Dental Procedures – Registration Number **B03-251. Final approval granted.**

Nader Hanna - A Phase II, Multi-Center, Single Arm Evaluation of Preoperative Chemoradiation Plus TNFerade™ Biologic (Ad_{GV}EGR.TNF.11D) Prior to Esophagectomy for Locally Advanced Resectable Esophageal Cancer. GV-001.005.GenVec, Inc. – Registration Number **B03-247. Final approval granted.**

David Westneat - Studies of Social and Reprocutive Behavior in House Sparrows Carrying West Nile Virus – Registration Number **B03-249. Final approval granted.**

Robert D. Perry - Yersinia Pestis – Mechanisms of Pathogenesis and Discovery of Antimicrobial Therapies & Vaccines – Registration Number **B03-246.**
Comments: The committee discussed the references to be used in determining biosafety levels for microorganisms. It was decided that if a biosafety level or risk group is not listed in BMBL or ABSA, the ATCC data sheet for the organism is used in determining biosafety level.
The following organisms should be assigned to BL-2 as stated in the sample ATCC references:

Klebsiella pneumoniae (ATCC 10031), Pseudomonas aeruginosa ((ATCC 10145)
Proteus vulgaris (ATCC12454), Morganella morganii (ATCC 21116)
Francisella novicida (ATCC 25015/10549)

Since the majority of Dr. Perry's work is with BL2 or BL3 agents, the committee did not consider this to be onerous.

Action: **Final approval** is to be granted upon receipt of these changes.

Jurgen Rohr - Novel Aureolic Acid Type Antitumor Agents/Angucycline-Derived Antitumor Drugs – Registration Number **B03-245. Final approval granted.**

MODIFICATION TO PREVIOUSLY APPROVED PROTOCOLS

Orlando Chambers – THRI Field Trial Project **B020620206**
Comments: The committee **returned the protocol to the PI** because the members did not understand the genetic constructs of the seeds to be used in the field trials. Dr. Hunt and Marcia Finucane are to meet with Dr. Orlando Chambers early next week to work out what information can be added and to work out a recommendation on the procedure to be used in the future for these types of trials.

Institutional Biosafety Committee
Minutes of May 7, 2003

Members Present:
Judith Lesnaw
Kelly Breeding
Thomas Chambers
Robert Jacob
Harry Enoch
Marcia Finucane
Anthony Sinai
Kenneth Dickey
Richard Wheaton

Members Absent
Chuck Staben
Jack Hiatt
Glenn Telling
Arthur Hunt

COMMITTEE BUSINESS

Dr. Judith Lesnaw called meeting to order at 12:10**.**

Approval of Minutes April 9, 2003 minutes approved with modification request from Dr. Thomas Chambers that a section of minutes on modification that refers to Dr. Chambers be changed to reflect that it is for Dr. Orlando Chambers. Dr. Anthony Sinai moved and Mr. Richard Wheaton seconded that the minutes be approved as modified. The motion carried unanimously.

Dr. Harry Enoch meet with the IBC to explain the importance of the committee and to commend the committee on the fine job they are doing. Dr. Enoch reported that the role of the IBC will be changing. The major roles will be risk assessment, determining containment levels and conditions, and reviewing the risk of research knowledge (whether research should be performed because of security concerns and once performed should it be published).

To speed up the review process Dr. Enoch suggested some different scenarios that might be taken. One was for the establishment of a primary and secondary reviewer process. The two reviewers and the Biological Safety Officer would review the protocols and correspond with the researcher, after that protocol would be submitted to the full committee.

The second review process would have the researcher invited to the IBC meeting to answer committee member questions.

The third protocol review would be by email, which is what the Radiation Safety Office does. After the Biosafety Officer works on the protocol with the principal investigator, it would be sent to the committee members for approval via email or campus mail.

Most of the committee members preferred the primary reviewer system and Ms. Finucane will start that process with the next protocols that come in. She has already sent one protocol out this way.

Dr. Enoch informed the committee that he has requested additional members be added to the committee.

A chart of the NIH Guidelines and the review processes required was handed out to the IBC members.

The committee was asked to review the By-Laws of IBC and be prepared to discuss changes at the next meeting. A discussion of the definition of a “quorum” began when it was brought up that with a larger committee membership, it might be harder to have a quorum present.

Ms. Finucane informed the committee of the continuing process with Dr. Orlando Chambers dealing with field trials. She and Dr. Hunt have worked out a process and will keep the committee abreast of what is going on. A copy of the procedure was handed out to the members present.

Information of the comparison of disinfectants and their efficacy was given to the committee for review and reference.

Meeting adjourned at 1:35 p.m.

Institutional Biosafety Committee
Minutes of June 11, 2003

Members Present:
Judith Lesnaw
Kelly Breeding
Thomas Chambers
Robert Jacob
Harry Enoch
Marcia Finucane
Anthony Sinai
Richard Wheaton
Chuck Staben
Jack Hiatt
Glenn Telling
Arthur Hunt

Members Absent
Peter Nagy
Kenneth Dickey

COMMITTEE BUSINESS

Dr. Judith Lesnaw called meeting to order at 12:07pm**.**

OLD BUSINESS

Approval of Minutes : May 7, 2003 minutes approved with no modifications. Dr. Tom Chambers moved and Dr. Anthony Sinai seconded that the minutes be approved as written. The motion carried unanimously.

Orlando Chambers field trial procedures : **MODIFICATION OF PROTOCOL # B020620206**
The following procedures for field trials was developed in a meeting with Dr. Art Hunt and Dr. Orlando Chambers, on Tues. 4/15/03 at 10am in KTRDC:

1. APHIS authorities are concerned with the safe field testing of transgenic plants, ask the same type of questions the IBC is concerned about, and are very familiar with the genes and applications in plants. An APHIS permit reflects an authority similar to the NIH and recognized by the NIH as the federal agency with regulatory purview of field releases (see NIH response to M. Finucane's questions; OBA RESPONSE: The NIH Guidelines detail containment requirements for work involving recombinant DNA, including transgenic plants. The NIH Guidelines don't, in effect, allow for field releases unless another federal agency has regulatory purview. As you pointed out, APHIS has purview with respect to field releases of transgenic plants. EPA also has purview when transgenic plants are designed to create their own pesticidal substances.
   Because the Guidelines do not include specifications for field releases, they do not detail any specific IBC role or review responsibilities with respect to the act of release)
   Therefore, APHIS permits are required to be submitted with the IBC registration forms. The application for APIS permits can be submitted to the IBC but final approval will not be granted until the final permit is received.

2. The seeds from Dr. Maiti (WEB1), developed with the IBC approval # B020822218, and with the appropriate APHIS permits, are acceptable. A copy of Dr. Chambers field trial modification and containment practices will be placed in Dr. Maiti's protocol folder this one time.

3. In the future, field trials with seeds from UK researchers should be sent to the IBC from the PI who does the rDNA work, as a modification to his IBC-approved protocol. The appropriate APHIS permits are to be attached to the IBC submission.

4. Dr. Chambers will write a short summary about each of the seeds to be used in the field trials, explaining the genetic changes that have been made (for example, an insect-resistance gene, from what source), what

protein or compound is expressed, and addressing the human health and environmental impact issues of the plant and this gene
This is the procedure to be used for seeds from other institutions, or from UK researchers who produced the seed years ago (for example, Dr. D. Hildebrand, seeds made 1985-1990) before anyone realized the IBC was to review and approve this work. Again, appropriate APHIS permits must be supplied.

5. According to the NIH Guidelines, Section III-E, Dr. Chambers' germination and growth of seedlings for field trials require IBC notice simultaneous with initiation; "approval prior to initiation of the experiment is not required"; However, the IBC review will be helpful in keeping track of transgenic plant work on the campus.

Action: Dr. Hunt moved for IBC **acceptance** of this procedure and Dr. Sinai seconded. The vote in favor was unanimous.

NEW BUSINESS 12:30PM

DR. WILLIAM NESMITH**– PLANT PATHOLOGY DEPARTMENT –**
Summary of Presentation on Blue Mold
1. Blue mold is an important disease of tobacco in Kentucky and the region. Annual farm losses in the decade have ranged from a few thousand to nearly $200 million.
2. This means it warrants our research efforts, but we must appreciate that our research can also serve as inoculum for farm and campus epidemics unless contained. Our greatest containment tools in the past have centered on working during the fall and winter months.
3. Tobacco blue mold is actually - Downy Mildew of Tobacco, The causal agent is *Peronospora tabacina*, a Stramenophile, which are fungus-like organisms in the Kingdom Chromista that include diatoms, kelp, water molds, and the downy mildews.
4. Downy mildews organisms are obligate biotrophs - obligate parasites - so they grow and reproduce in nature only on a live host.
5. This Peronospora's host range is essentially confined to the genus *Nicotiana* -tobaccos, to the best of our knowledge, but experimentally it can be taken to a few other solanaceous hosts.
6. This organism produces both asexual spores (sporanagiospores) and sexual spores (Oospores), but the sexual spores are rarely found.
7. Primary inoculum is usually from the asexual spores coming from activity in tobacco, where it can easily produce a million spores/sq centimeter of infected leaf.
8. Sporangiospores are about 15x 25 u , are very fragile and short live, unless in the frozen state, being very sensitive to UV light. Most spores are killed within a few minutes to an hour by exposure to direct sunlight during the summer months.

Airborne: These sporangiospores are essential like balloons, so they easily float in the air and can be spread long distance on air currents, when protected from UV light.

Once they land on their host, infection can occur within 2 to 4 hours, which requires darkness and free water. The symptom-free incubation period is 4-14 days, but sporulation can occur on day 3, but usually is on day 4-5.

Sporulation requires high relative humidity 95%>, in darkness. - usually more than 6 hours, but it can occur with as little as 2 hours.

Spores are liberated naturally with drop in humidity, or through physical agitation. They can be carried on clothing and body hair.

There are 5- recognized Patho-systems in the world: North America/Central America, South America, Mediterranean/Europe, and Austria.

New Protocol Review

BOACHUN LI **– RESISTANCE OF NICOTIANA SPECIES TO TOBACCO BLUE MOLD AND BLACK SHANK (PROTOCOL # B03-257)**

Boachun Li– Responses of Nicotiana Species to Agrobacterium Tumefaciens Infection (protocol # B03-258)

Boachun Li – Effect of R genes on Tobacco Responses to the Major Tobacco Diseases Blue Mold and Black Shank (protocol # 259)

Boachun Li – Identification of Nicotiana Species Resistant to Blue Mold Via Root Inoculation (protocol # 260)

A discussion of Dr. Boachun Li's protocols followed the presentation and the committee deferred a decision on the protocols until Dr. Nesmith has reviewed them and made recommendations for containment facilities and procedures.

Action: **The protocol is sent back to the PI for revision.**

Bruce Downie – Identification and Characterization of Mutants Exhibiting Attributes Resulting in Robust Seed Germination and Seedling Establishment.(protocol # B03-263).
Comments: Written reviews from Peter Nagy & Arthur Hunt were handed out. Short discussion of this work.

Action: Dr. Jacobs moved and Dr. Telling seconded that the committee grant **full approval**, contingent upon the field work being conducted by Dr. Orlando Chambers per his approved protocol. The vote for approval was unanimous.

JAYAKRISHNA AMBATI – **ADENO-ASSOCIATED VIRUS GENE THERAPY AND STEM CELL TRANSPLANTATION IN A NOVEL MOUSE MODEL OF AGE-RELATED MACULAR DEGENERATION OR NOVEL MOUSE MODELS OF AMD (PROTOCOL # B03-264)**
COMMENTS: DISCUSSION, ADDRESS THE FOLLOWING ISSUES:

1. The location of Dr. Hauswirth's laboratory
2. The testing done by Dr. Hauswirth to assure that the AAV is not replication competent
3. The details of that testing
4. Specify that all persons working with the AAV have had blood borne pathogen training and put copies of the certificates in the safety manual (amend page 2 of the rDNA form in training section, delete that "no special training" statement and put in who is trained in BSL2 practice, experience with tissue culture, infectious agents at BSL2)
5. Is there a chance of AAV leaking from the eye immediately following the injection?
6. What steps will be taken should someone be accidentally injected with the AAV? Before work is initiated, notify Worker's Care as to the agent being worked with and the names of people working with it.
7. Rewrite the safety/spill plan to state that 0.5% NaOCl is used first on a spill, then covered with paper towels, wiped up and put into biohazard trash. (Please revise the second paragraph of amendment #3)
8. Address the issue of the transportation of mice from the animal facility to the laboratory
9. How is the AAV received and handled? The person(s) responsible for receiving this should have documentation of IATA training (offered through the Hazardous Materials office).

Action: Dr. Wheaton moved and Dr. Tom Chambers seconded, that the IBC committee grant provisional approval, contingent upon the issues being addressed.

Joseph R. Berger – JC Virus Expression in the Oropharynx and Human Immunodeficiency Virus (HIV) (protocol # B03-262)
Comments: Discussion.

Action: Dr. Jacobs moved and Dr. Telling seconded, that this be granted **full approval**. The vote was unanimous for approval.

ISSUES DISCUSSED

1. Drosophila containment requirements
   BSO was directed to determine how other institutions deal with the containment of transgenic flies.

2. VA protocols
   ACCEPTABLE FOR PIS MOVING TO ALLIED HEALTH BUILDING?
   (Nancy Webb, van der Westhuyzen, de Beer, Eckhardt, Lei)
   The committee decided that UK IBC registration forms will have to be submitted for work performed on the UK campus.

3. Adenovirus work in new Allied Health
   SMALL ROOM WITH 2 BSC VERSUS LARGE ROOM WITH 6 BSC
   OPEN LAB PLAN
   THE IBC COMMITTEE DISCUSSED THE PROS AND CONS OF DIFFERENT FACILITIES FOR ADENOVIRUS RESEARCH AND THE CONSENSUS FAVORED THIS WORK TO BE DONE IN A DEDICATED ROOM WITH DEDICATED EQUIPMENT.

4. rDNA toxin: expert/reviewer?
   DR. SINAI AND DR. STABEN AGREED TO REVIEW A NEW PROTOCOL DEALING WITH A RECOMBINANT TOXIN ADMINISTERED TO HUMAN SUBJECTS AND TO MAKE COMMENTS AND RECOMMENDATIONS BEFORE THE NEXT IBC MEETING.

5. NEW ibc REGISTRATION FORM
   COPIES OF THE NEW FORM WERE HANDED OUT AND MEMBERS WERE SOLICITED FOR COMMENTS. THIS WILL BE DISCUSSED AT THE NEXT MEETING IN JULY.

THE MEETING WAS ADJOURNED AT 2:45PM.

Minutes of the
Radiation Safety Committee
FY 2002-03

Radiation Safety Committee
Minutes of August 13, 2002

Members Present:	**Members Absent:**
Ralph Christensen (Vice Chair)	Thomas Curry
Guy Simmons	Mark Farman
Harry Enoch (Ex-Offico, Administration)	Michael Jay
Bob Wilson (Ex-Officio, RSO)	Robert Zwicker
John Timoney	Mary Allen (Ex-Officio)
Joseph Frye (Ex-Officio, MC Security)	John Rebuck (resigned)
Steven Yates	
Sandra Earls (Ex-Officio)	
William St. Clair	
Sarajane Doty	

Guest(s):

Fred Rawlings, Assistant RSO; Jerry Schlenker; Assistant RSO; and Sheryl Abercrombie, Diagnostic Radiology.

Vice Chairman Christensen called the meeting to order. A quorum was present.

1. **Minutes for the May 14, 2002 meeting:** The Minutes were reviewed. Dr. Yates moved to accept the minutes as presented, seconded by Dr. Simmons. The Minutes were approved by a 10 to 0 vote.

2. **RSO Quarterly Report, Including the ALARA and Trends Reports:** The report was reviewed and noncompliance items and ALARA items were discussed. Mr. Wilson discussed the history of customer service that the Radiation Safety Office had experienced with the current personnel monitoring service vendor, ICN. Two ICN representatives recently visited UK and pinpointed some existing services that the contract had specified but were not being delivered. Also, there were specifications in the contract that would require specific action that had not been offered as yet. Improvements are supposedly in progress. Ms. Doty moved to accept the reports, seconded by Dr. Yates. The Reports were approved by a 10 to 0 vote.

3. **Radiation Safety Committee By-Laws Update:** A revision for the By-Laws was offered to correct the title of the vice-president to whom the Environmental Health and Safety Committee reported. After review and discussion, Dr. Yates moved to approve, seconded by Ms. Earles. The motion was approved by a 10 to 0 vote.

4. **Hospital / Medical Center Patient Room Decontamination Standard and SOP:** The patient room radiopharmaceutical therapy decontamination standard and SOP were presented for review and action by the Committee. After discussion, Ms. Doty moved to approve, seconded by Dr. Yates. The motion was approved by a vote of 10 to 0.

5. **Broad Medical License Amendment:** Radiation medicine has requested that a license amendment be obtained for the use of the new 60 mm IVB Strontium-90 source train. Dr. Simmons noted that the U.S. FDA has approved this source. Ms. Doty moved to approve the amendment action, seconded by Dr. Enoch. The motion was approved by a vote of 10 to 0.

6. **Annual Radiation Safety Program Review Report:** The 2002 program review report was reviewed and discussed. Dr. Simmons moved to accept the report, seconded by Dr. Yates. The motion was approved by a vote of 10 to 0.

7. **RSO Report:** Mr. Wilson presented the RSO Report. An additional incident, an August 06 sharps stick to David Rich, Radiation Health Technician, while picking up waste. Mr. Rawlings described the incident and consultation with the AU. Mr. Schlenker discussed the initial problems with the new x-ray inspection equipment and the corrections. The equipment is now working properly. The Hospital radioactivity portal detector and alarm system was discussed, with comments on its usefulness. The promotion of Jerry Schlenker to Assistant Director-Clinical, and training done with the Emergency Department on Emergency Response to Radiological Incidents was reported. The Technical Advisory Group recommended by Dr. John Volpe and the Blue Grass Chapter meeting was discussed. Ms. Doty moved to accept the report, seconded by Dr. Yates. The motion was approved by a vote of 10 to 0.

There being no other business items, Dr. Christensen ask for a motion to adjourn. Dr. Yates moved to adjourn, seconded by Mr. Frye. The motion was approved by a vote of 10 to 0. The meeting was adjourned at 4:15 P.M.

Radiation Safety Committee
Minutes of November 12, 2002

Members Present:	**Members Absent:**
Ralph Christensen (Chair)	Steven Yates
Guy Simmons	Sandra Earles (Ex-Officio)
Harry Enoch (Ex-Offico, Administration)	William St. Clair
Bob Wilson (Ex-Officio, RSO)	
John Timoney	
Joseph Frye (Ex-Officio, MC Security)	
Robert Zwicker	
Mary Allen (Ex-Officio)	
Sheryl Abercrombie	
Thomas Curry	
James Matthews	
Robert Yokel	

Guest(s): Fred Rawlings, Assistant RSO and Jerry Schlenker, Assistant RSO.

Chairman Christensen called the meeting to order. A quorum was present.

1. **Minutes for the August 13, 2002 meeting:** The Minutes were reviewed. Dr. Curry moved to accept the minutes as presented, seconded by Dr. Enoch. The Minutes were approved by an 8 to 0 vote.

2. **RSO Quarterly Report, Including the ALARA and Trends Reports:** The report was reviewed. Lab survey noncompliance and ALARA items were discussed. Mr. Rawlings described the communications effort put forth to achieve compliance improvements. The membership acknowledged deserved kudos to Mr. Rawlings for his efforts and achievements. Mr. Wilson introduced recommended revisions to the ALARA Levels. Word changes were recommended by Ms. Allen. Mr. Wilson presented the concept of single badge EDE determinations. After discussion, it was decided that Mr. Wilson would review the ALARA reports over the next quarter and compare double badge results with the single badge method and report on his findings. Ms. Allen moved to approve the ALARA report and ALARA Level revisions, with noted changes, and the EDE method study. Dr. Zwicker seconded the motion. The motion was approved by a 12 to 0 vote.

3. **Broad License Inspection Results and Proposed Response:** Mr. Wilson presented each of the four September 17-18 inspection citations in order. Each was discussed and a proposed response orally presented. The actions were agreed to by the membership. Mr. Wilson will draft a formal response letter for Dr. Enoch's signature with a copy noted to Dr. Christensen.

4. **RSO Report:** Mr. Wilson presented the RSO Report. Two incidents that occurred since the meeting announcement had been sent were described. No radiation levels were involved. A malfunction of the Shepherd Mark I Model 30 irradiator was reported to the regulatory agency as required. Mr. Schlenker reported on the status of the new x-ray safety program. Ms. Abercrombie asked that the minutes show that Mr. Schlenker and the Radiation Safety Office has been performing in an exemplary manner for Diagnostic Radiology since the program began. Mr. Rawlings described the status of planning for a radiation incident exercise, to include the Medical Center / Hospital, to be held later in 2002. Mr. Wilson raised the subject of obtaining a free Am-241 sealed gauge source for use in testing structural shielding materials. Dr. Simmons noted that the cost of a Tc-99m source was low, would provide the same capability, and eliminate the disposal problem of an americium source.

There being no other business items, Dr. Christensen ask for a motion to adjourn. Dr. Simmons moved to adjourn, seconded by Mr. Frye. The motion was approved by a vote of 12 to 0. The meeting was adjourned at 4:30 P.M.

Radiation Safety Committee
Minutes of March 11, 2003

Members Present:

Ralph Christensen (Chair)
Guy Simmons
Harry Enoch (Ex-Offico, Administration)
Bob Wilson (Ex-Officio, RSO)
Steven Yates
Joseph Frye (Ex-Officio, MC Security)
Robert Zwicker
Sheryl Abercrombie
Thomas Curry
James Matthews
Sarajane Doty

Members Absent:

John Timoney
Sandra Earls (Ex-Officio)
William St. Clair
Robert Yokel
Mary Allen (Ex-Officio)

Guest(s):

Fred Rawlings, Assistant RSO and Jerry Schlenker; Assistant RSO. Also present were Dr. Christensen's students, Cammorin, Jeanann, Jason and Alfonso.

Chairman Christensen called the meeting to order. A quorum was present.

1. **Minutes for the August 13, 2002 meeting:** The Minutes were reviewed. Dr. Yates moved to accept the minutes as presented, seconded by Dr. Mathews. The Minutes were approved by a 10 to 0 vote.

2. **RSO Quarterly Report, Including the ALARA and Trends Reports:** The report was reviewed and noncompliance items and ALARA items were discussed. Mr. Rawlings discussed the inspection citation rate and specifics. The continued improvements in the citation were noted. Dr. Yates moved to approve the quarterly and ALARA reports. Dr. Zwicker seconded the motion. The motion was approved by a 10 to 0 vote.

3. **Personnel Monitoring Report and Recommendations:** The report was reviewed and thoroughly discussed. It was suggested that the matter of the EDE method be tabled until the next meeting. Mr. Wilson will, in the meantime, conduct a survey of other similar institutions on how EDE doses are handled and what methods are available from the ICN and Landauer service companies. He will report on the survey results at the May 2003 Committee meeting. On the matter of contacting badge groups that are receiving individual doses of less than 100 mrem per year about eliminating the badges, there was agreement. Dr. Simmons made a motion to approve this action, seconded by Dr. Yates.
4. **RSO Report:** Mr. Wilson presented the RSO Report. Mr. Schlenker reported on the status of the new x-ray safety program. Forty x-ray machine inspections have been completed to date. The license amendment for the new Gamma Knife replacement has been received. The Radiation Protection regulations fee schedule revision is now in

effect. Revisions include an increase in licensing fees and the addition of new fees for shielding plan reviews. The Radiation Protection Branch has approved the UK corrective actions to findings during the September 2002 inspection. The Institution is now in full compliance. Waste Alarm reports were presented for calendar 2002 and 2003 to date. There were no action items in the report and no vote was taken.

5. **Application as Authorized User, Radiation Medicine:** Dr. Zwicker provided the resume, training, and experience documentation for Jennifer Huhn, D. O. Dr. Huhn is applying to be an Authorized User of brachytherapy. She has passed the written boards for certification in January 2003, and will be taking the oral boards in June 2003. Dr. Simmons moved to approve the application, seconded by Dr. Zwicker. The motion was approved by a vote of 11 to 0.

There being no other business items, Dr. Christensen adjourned the meeting at 4:15 P.M.

Radiation Safety Committee
Minutes of May 13, 2003

Members Present:

Ralph Christensen (Chair)
Guy Simmons
Harry Enoch (Ex-Offico, Administration)
Bob Wilson (Ex-Officio, RSO)
Steven Yates
John Timoney
Robert Zwicker
Sarajane Doty
Sheryl Abercrombie
William St. Clair

Members Absent:

Thomas Curry
Sandra Earls (Ex-Officio)
James Matthews
Robert Yokel
Mary Allen (Ex-Officio)
Joseph Frye (Ex-Officio, MC Security)

Guest(s):

Fred Rawlings, Assistant RSO; Jerry Schlenker; Assistant RSO and William Garner, RHT.

Chairman Christensen called the meeting to order. A quorum was present.

1. **Minutes for the March 11, 2003 meeting:** The Minutes were reviewed. Dr. Yates moved to accept the minutes, with stipulated corrections, seconded by Ms. Doty. The Minutes were approved by a 10 to 0 vote.

2. **RSO Quarterly Report, Including the ALARA and Trends Reports:** The report was reviewed and noncompliance items and ALARA items were discussed. Mr. Rawlings clarified the inspection vs. citation statistics. The continuing trend in the citation improvements were noted. Mr. Rawlings offered to initiate a trend report on ALARA statistics, going back over some appropriate time period for a base. Ms. Doty moved to approve the quarterly and ALARA reports. Dr. Yates seconded the motion. The motion was approved by a 10 to 0 vote.

3. **Personnel Monitoring Report and Recommendations:** Mr. Wilson presented the report on the requested survey of which EDE methods were in use. This covers the use of badges with protective aprons. After discussion, Ms. Doty moved to accept the report and its recommendations, seconded by Dr. Simmons. The motion was approved by a 10 to 0 vote.ly discussed.

4. **RSO Report:** Mr. Wilson presented the RSO Report. Mr. Schlenker reported on the status of the new x-ray safety program. Forty x-ray machine inspections have been completed to date. Committee review of x-ray inspections was discussed. An assorted sample of several reports will be sent to the Chairman, Dr. Simmons, Dr. Zwicker and Ms. Abercrombie for review and critique. The license amendment for the new Gamma

Knife replacement has been received. The Radiation Protection regulations fee schedule revision is now in effect. Revisions include an increase in licensing fees, and adds new fees for shielding plan reviews. The Radiation Protection Branch has approved the UK corrective actions to findings during the September 2002 inspection. The Institution is now in full compliance. Waste Alarm reports were presented for calendar 2002 and 2003 to date. There were no action items in the report and no vote taken.

5. **Application as Authorized User, Radiation Medicine:** Dr. Zwicker provided the resume, training, and experience documentation for Jennifer Huhn, D. O. Dr. Huhn is applying to be an Authorized User of brachytherapy. She has passed the written boards for certification in January 2003, and will be taking the oral boards in June 2003. Dr. Simmons moved to approve the application, seconded by Dr. Zwicker. The motion was approved by a vote of 11 to 0.

There being no other business items, Dr. Christensen adjourned the meeting at 4:15 P.M.