

Indiana University Bloomington



# Physical Plant PERSPECTIVE

**Fall 1996 Issue**

Published by: Indiana University, Department of Physical Plant

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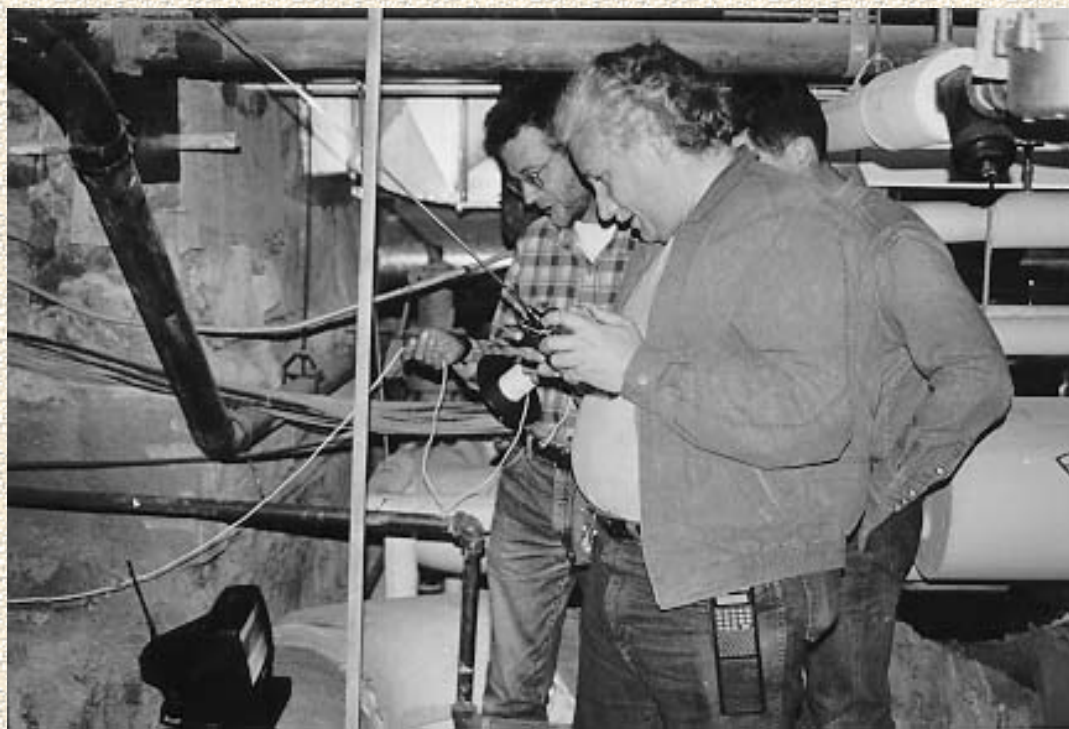
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## Electronics builds "All-Terrain Cam"

*-- goes where no worker has gone before.*



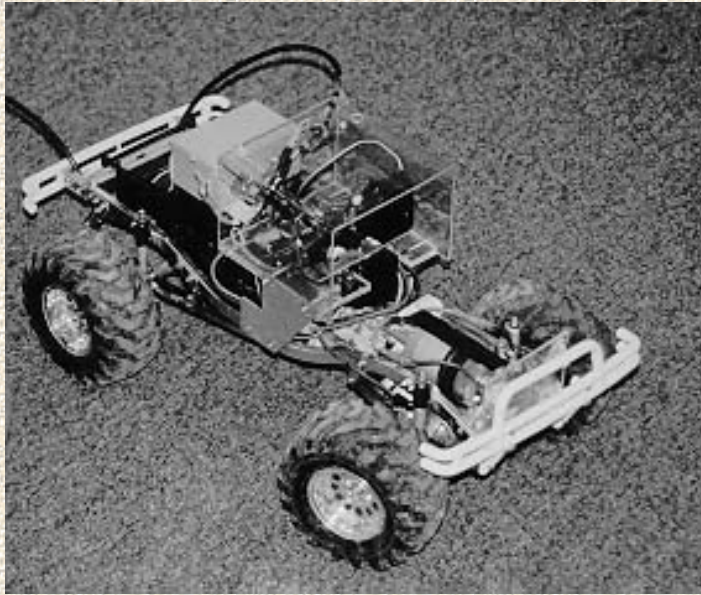
It's self-propelled, it holds a camera with a lens the size of a dime, it can see in the dark and it might save someone's life. What is this mystery machine? It's Physical Plant's newest piece of technology, the Remote All-Terrain Camera (RATC).

The eight-pound, eighteen-inch mobile camera system can enter spaces inaccessible to humans, such as some of the steam and condensate tunnels that run underground between campus buildings. The camera sits on a four-wheel-drive remote-controlled car called an Attak-4.

The basic component was purchased at a model shop in Bloomington. It can climb over small-diameter pipes and other obstructions that are found in the tunnels. A D-C voltage remote battery pack powers the car and camera. The power pack is connected to the vehicle with a 100-foot cable. The battery pack always sits outside the tunnel so workers can easily replace batteries that have been used up. Operators control the car with a hand-held remote, custom-designed by Electronics workers, that is also connected to the car with a cable.

The tiny camera fits on a printed circuit board that is about three inches long similar to a credit card. It can rotate ninety degrees to the left or right and tilt up and down. It requires very little light to transmit a clear image;

however, a halogen lamp was added to increase visibility. The lamp, attached to the camera's motor, constantly points in the same direction as the camera lens. Video is transmitted through a cable to a television monitor located outside of the tunnel. The camera can only transmit images back to the monitor. It cannot record at this time, but this capability may be added later for archival purposes and review.



Chuck Sheppard, Associate Director of Physical Plant, came up with the idea for the RATC project, and then asked Electrical Design Engineer Paul Embry, Manager of Electronics Andrew Lowry and Technician Dan Fox to design and build it. The All-Terrain Cam will be used to reduce the large amounts of time and money Physical Plant spends locating leaks in underground tunnel systems. Some steam and condensate-carrying tunnels are too small and dangerous for workers. The steam lines can be very hot. This vehicle can enter those areas, and prevent Physical Plant workers from possible injury, says Lowry.

The small size of the tunnels is the biggest problem. Federal laws require permits for workers to enter certain underground systems, and the process to identify such confined spaces and allow entry into them is very time-consuming. In the past, when workers suspected a leak in one of the service utility tunnels, they had to use backhoes and cranes to remove large amounts of the sidewalk and earth covering the suspected area to search for the damage. This process is expensive and inconveniences pedestrians. Lowry says the new device will save money and time. Hopefully, we can run the vehicle through a tunnel and pinpoint the leak. Then we'll only have to remove one or two sidewalk panels to get to it. It will take less time to find the leak and then less time and money to get it repaired. There is a tremendous cost savings here. The All-Terrain Cam will also limit the amount of time that obstacles keep students, faculty and staff from getting to their destinations as directly as possible.

Currently, Fox, Embry and Lowry are driving the All-Terrain Cam through utility tunnels beneath the Student Building and Rawles Hall to test its range and video capabilities. They have made some significant changes to the system since the first tests were run. Originally, the car was radio controlled, and no cable was needed. But problems with signal range and interference forced the designers to abandon this method. When we drove the car inside, we could go all over, but the radio signals have trouble getting around turns in the tunnels. On one test, we barely got fifteen feet because a paging signal was interrupting the signal between the remote and the car, says Fox. Early tests also found that connecting the battery pack to the car did not work. We learned quickly that the batteries can die at the worst possible time, and then the car's stuck in the middle of a tunnel, says Fox. This prompted the design of the cable connection system. That cable is the car's umbilical cord, says Embry.

By the time you read this, Embry, Fox and Lowry should have given the RATC project it's first assignment in the Tenth Street tunnel, where there is a suspected leak. We've been going into the tunnels every day and testing, says Embry. The All-Terrain Cam is ready to go to work.

## Directions



*In Directions, a recurring Perspective column, members of the directoral staff highlight plans and goals for the future of Physical Plant. In this issue, Gary R. Kent, Assistant Vice President for Facilities Operations, discusses, in his own words, the effects of state funding and new managerial strategies on Physical Plant services.*

The State of Indiana appropriated \$24.1 million for Indiana University to address repair and rehabilitation for the 95-'97 biennium. IU Bloomington's portion is \$14.8 million. Prospects are good that IU will get support from the higher education commission and the legislature for full funding in the 97-'99 biennium about \$34 million. About \$21 million of this will be for the Bloomington campus including \$5 million new monies for repair of infrastructure (central plants and utility distribution systems).

Physical Plant's workload is higher this year than in previous years as we have more money to address things that were postponed for the last four years. Our staff level has been increased to 658 people, as of June 30, 1996, from 633 the year before as we staffed up to meet the increased workload. We have hired apprentices, and for the first time in many years, had to hire experienced craftworkers from the outside.

In addition to the full funding for repair and rehabilitation the legislature appropriated \$16 million for major repairs of the Central Heating Plant and the steam distribution system. Many of these projects are now underway. The central heating plant has a new ash machine, and gas burners are being added to boilers that still use coal. Major repair work on the Tenth Street steam and condensate tunnel was completed during the past summer.

We're always looking at ways that Physical Plant can save money. One way is to take advantage of the changing regulation of electric rates. We're going to look for ways that we can reduce the unit price of all energy electricity, gas and coal for all IU campuses. I'm confident that we can do this. We're a tremendously large market. In the 94-'95 year, the university spent about \$33 million on energy commodities for all seven of the campuses. We believe there's a lot of purchasing power in that. We're looking for ways that we can introduce competition into the energy cycle and purchase power at a lower price.

Reducing the amount of energy the University uses will also save money. The Bloomington campus energy use for the first part of this decade is 35% below what was predicted in 1977. Efficient lighting equipment, changes in the way buildings are air-conditioned and heated, and more efficient motors work together to decrease energy use. We're lowering our energy bill by trying to cut the price of energy and trying to use less of it.

With increased funding, more staff and good planning, we're going to be busy for the upcoming year.

## New Assistant Director for Utilities



**Joseph Greenawalt** became the new Assistant Director for Utilities on June 10. He graduated from Ohio State University with a Bachelor of Science Degree in 1979. He then spent twenty years as an Air Force engineer working in Air Force physical plants. For the last three and a half years, Greenawalt was at Texas Christian



University (TCU) as the Assistant Director for Mechanical Systems. It was at TCU that he was introduced to the college environment, and he decided he liked it. I enjoy being part of an institution that holds learning in high esteem. Almost everything we do involves learning. It's our responsibility to stay current and advance our business.

The Utilities Division delivers hot water, steam, water and sewage, electricity, and chilled-water services to IU Bloomington campus buildings. Fifty fulltime employees work in the division. Greenawalt says their hard work keeps the division running smoothly. My job is easy as long as I have good people. The people in Utilities are really top-notch.

One of Greenawalt's main priorities is ensuring the safety of workers. Utilities employees work around high pressure steam that can reach up to 360 degrees Fahrenheit, and since steam of 130 degrees will cause burning, this is a potentially dangerous situation. Workers are also around high voltage wires that could cause problems if not dealt with correctly. We don't want to injure or harm anyone in the delivery of our services.

Greenawalt is also concentrating on maintaining reliable service. People expect to have utilities, and we're responsible to provide them without any problems. Upgrading and restoring underground utility transportation systems infrastructure is one way Greenawalt is doing this. The infrastructure is due to be replaced; it's normal life-span is about over. Recent work on the Tenth Street steam tunnel is an example of infrastructure upgrade.

Cost effectiveness is another of Greenawalt's priorities. He plans to keep energy costs low and reduce overall operation costs. The money saved will be used to repair and replace infrastructure.

## Ivy Tech Options for Physical Plant

Did you know that Physical Plant will reimburse fulltime permanent employees for the cost of job-related technical and vocational classes they take at Ivy Tech State College? For the past five years, many employees from all divisions in Physical Plant have taken advantage of this benefit. Costs are covered for one class if the employee receives a final grade of C7 or better.

### Basic guidelines

- The desired training must be relevant to the employee's current Physical Plant position, or to future duties management believes this worker may assume for our department. Employees should discuss this requirement with their supervisor before deciding to apply for reimbursement.
- Employees should apply through the Physical Plant Training & Development Office (T&D). The employee is responsible for: obtaining the form from T&D, obtaining their immediate supervisor's and assistant director's signatures and for delivering the approved form to T&D prior to enrolling. This needs to be at least two weeks before classes start at Ivy Tech.
- A maximum of 14 employees (department-wide) may take one class per student, per semester, at Ivy Tech, on a first-come basis when the approved form is turned into the Training Office. A second class

may be taken for reimbursement by an employee, if the 14 spots are not filled two weeks before the first day of classes.

- Basic education classes (e.g., english, math) are not covered under this program.
- The department will reimburse the employee for tuition, lab fees and books (we are not able to reimburse the employee for tools, calculators, software or diskettes).
- Management within the employee's division may review the employee's progress.
- Class attendance needs to be on the employee's own time. For classes held during the employee's normal work schedule, the employee must use accrued benefit time or discuss possible schedule changes with supervision.

## How to apply

1. Review the guidelines.
2. Contact Training & Development for an approval form.
3. Fill out the Employee Section and the Estimated Expenses section, then discuss the course with your supervisor.
4. Your supervisor certifies that the course meets the guidelines and signs/dates the form.
5. Your supervisor then transmits the form to the division head for reimbursement approval.
6. The division head determines if the course is reimbursable (appropriate, affordable, etc.), then returns the form (approved or disapproved) to you, with copies to the supervisor and Training & Development before you enroll at Ivy Tech.
7. At the end of the course, you show a transcript with a grade of C or better to Training & Development to initiate the reimbursement process.

If you want to take classes this spring, registration for new students is underway now. Classes begin the first week of January. Employees wanting to apply for the Ivy Tech reimbursement program must contact Training & Development as soon as possible. The reimbursement program is limited each semester to the first 14 employees to turn in approved forms.

## New Electronic's Manager



On September 1, after three months as acting manager, Andrew Lowry was permanently appointed Manager of the Physical Plant Electronics Department. Lowry began working as an electronics technician for Physical Plant six years ago. His most recent position was as a design engineer assigned to the Energy Management System (EMS).

Depending upon the number of hourly workers hired at a particular time, there are nearly 34 workers in the electronics department. They maintain the electronic portion of the EMS system. They service and repair computers for faculty, staff



and students. They engineer, install and maintain the hi-tech classrooms and the security systems at IUB and other IU campuses. They work on cable TV and data systems, PA system maintenance and audio/visual service and repair for IU campuses. They service and maintain the UHF and trunked radios used on the IUB campus.

Lowry enjoyed his previous job, but is excited about the challenges he has in his new position. I wasn't looking for something else, but I received so much encouragement from my peers and the division personnel that I decided to apply. The encouragement has continued as Lowry adapts to his job. Everything is going very well. I enjoy the position and have gotten a lot of support from the workers. Lowry sees a lot more paperwork than he did as a technician, but he likes the added challenge. I'm a technical person, so the business aspect of this position is kind of new to me. The Business Office has been a huge help. I'm quickly getting the hang of it.

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## Administrative Services



### Peggy Gentry

Peggy Gentry has worked for the Business Affairs Office for almost 23 years. Although her job title has changed, she has stayed in the same office throughout her career. For the first 15 years, Gentry worked as a keypunch operator, entering data from labor tickets, invoices and stock issues using a machine that punches holes into cards.

Three years ago, Gentry's job duties changed. She now checks attendance sheets and payroll totals for over 400 Physical Plant employees. For attendance, she subtracts any sick or vacation time used from the person's balances and adds time that has been accrued. Every two weeks she completes this process which takes one or two days.

For payday, Gentry reviews the payroll checks and verifies that the dollar amount on the check reflects what the attendance records indicate. Her other duties include data entry for check requests, material transfers, checking labor tickets, sorting and delivering mail and answering phones.

Gentry has seen many changes in her years at Physical Plant, especially in the increased use of computers. When the Business Office first became computerized, Gentry had never worked with a computer before. We received a book and sat down and figured it out. It was a nightmare for awhile. She now uses Windows, makes spreadsheets and uses e-mail.

Gentry deals with many people every day and says this is one of the favorite parts of her job. When I first became a receptionist, I wasn't a people person and was a little apprehensive, but now I like greeting people and answering the phone. Gentry also gets along well with her fellow employees. I'm around a great bunch of people; they are so easy to talk to.

## Building Services

## Larry Branam



Larry Branam has worked as a Physical Plant custodian since June, 1995. For the first three months of his employment, Branam worked in the Fine Arts building. He was then relocated to the Education building, where he stayed for another three months. Currently, Branam works in the Business building.

Recently, the Business building custodial crew adopted a new system. Workers are no longer responsible for a nightly routine on a floor that includes classrooms, offices and bathrooms. Instead, workers clean one section classrooms, offices or bathrooms for an entire week and then rotate to another section. For example, one week, Branam cleans offices; half on Monday and Thursday and half on Sunday and Wednesday. The next week, he may be responsible for the 26 bathrooms in the Business building. Classrooms are the third shift category, and Branam's least favorite duty. They're so messy. There is always paper on the floor and pop spills.

Branam likes the new routine. I used to clean the second floor every night. It got a little old after a while. Branam says working throughout the entire building lets him learn more on the job. We really know the whole building now. We are familiar with all the offices and classrooms. The new system also helps Branam and the other custodians complete their work in less time. We're much quicker now. We have a chance to develop and stick to cleaning patterns that we find most efficient.

Branam says everyone is very supportive of each other. Someone might have a bad night, so we help each other out. Workers also help each other with the late shifts. About 4:15 you're ready to go home, so we keep each other motivated.

## Kip Shell



Kipp Shell has been a Physical Plant custodian for Building Services since January 1995. He has worked in Ballantine Hall since he was first employed. His original assignment was on the first floor. He remained there for about six months before being reassigned to the seventh, eighth and ninth floors, where he has been for about a year.

Shell works from ten p.m. to six-thirty a.m. His routine alternates from night to night. On Sundays and Wednesdays, he cleans the north wing of the seventh and eighth floors. Monday and Thursdays he works on the south wing of the seventh and eighth floors, and the north side of the sixth floor. He vacuums, sweeps, mops, dusts and empties the trash on the ninth floor offices and cleans the restrooms every night. I probably unlock 130 doors a night, says Shell. On Tuesdays, Shell cleans the ninth floor offices and bathrooms, but spends the second half of his shift doing project work, such as scrubbing and refinishing the hallway floors or doing hard-floor and carpet care.

Winter brings Shell extra work. I dread winter because we have to shovel snow, he says. He and the rest of the Ballantine custodians clear all the sidewalks around the building. There's also much more mop work to do

because of all the sand and salt that students and faculty track in. To keep the sand and salt off the higher floors, Shell and the rest of the crew put carpet mats in front of the elevators.

Shell enjoys his work. I'm used to the routine. It's not too hard, and I like the people I work with. He also likes the night hours, but says, My wife makes fun of me because I always say I love my job, even working at night.

## Campus Division

### Joe Lasley



Joe Lasley started at Physical Plant in 1990 as an hourly worker for Campus Division. He became a gardener in 1992 and did that for two years before entering his current position as a tree trimmer.

Lasley and three other tree trimmers keep the trees on the entire IUB campus well-pruned and healthy. They remove hangers, or dead limbs, and keep broken branches off sidewalks. They prune when limbs grow too low, maintaining handicap specifications that require limbs to be at least six and a half feet from the ground. They also spray herbicides and insecticides. We try to keep trees as healthy as we can, Lasley says. In the winter, a large part of his job is snow removal, and in spring and fall, he plants flowers and bulbs.

Special commencement preparation and cleanup of trees that didn't make it through the winter make spring a busy time for Lasley. In late summer, Lasley said, We were still cleaning up damage from this year's big snowstorms. The weight of the snow breaks limbs and uproots trees. Last spring, a large storm blew a maple tree over causing it to fall against a building. Lasley and the crew had to use a payloader machine from the Power Plant to support the trunk of the tree while they removed limbs that rested on the structure. There was very little damage to the building, but Lasley says it could have been different. That tree could have gone right through the building.

Lasley likes tree-trimming for many reasons. I've always been an outdoor person, and every tree we work on presents a different challenge. It keeps it interesting, he says. He also enjoys the people he works with and meets on the job. We cover the entire campus, and deal with just about everybody.

## Building Maintenance

### Alice Shields



Alice Shields has been working at Physical Plant since last December as the Senior Records Assistant. She works in the Building Maintenance office with two others.

Shields keeps records for the abatement, plumbing and sheet metal shops. On a daily



basis, she posts labor time into the computer, keeps attendance, and tracks all absences for vacation, sick time, bonus time, holidays, injuries, etc. She also keeps a running log of asbestos sample results. The samples are taken to Indianapolis for testing and the results are sent to Shields. She files the original and sends a copy to the asbestos crew. She logs when the samples are sent, the results and whether the abatement crew has received their copy of results.

Some duties rotate between Shields and her co-workers every two weeks: van service, mail service, and automatic purchase orders. For van service, Shields must dispatch the three vans and answer the radio and phone. This is one of the more stressful jobs, and Shields says, By the end of my two weeks, I'm happy to pass the job on.

The most challenging part of Shield's job was learning all the regulations regarding asbestos work. The detailed rules took some getting used to. I've been trying to learn more about the Environmental Protection Agency (EPA) and what the policies are.

Shields enjoys her job, and the people she works with. We all get along great. We're a good team. When one person is not in, we just pick up the slack. She also says that she has learned a lot about computers and different programs. Most of all, Shields likes completing a project before moving on to another one. With this job, the next day is always a new day.

## Fred Shields



Fred Shields has worked at Physical Plant since 1962. He started on the Grounds Crew, where he worked for a year before joining the Navy. Four years later, he returned to the Grounds Crew, but after only two years decided to go into plumbing. Shields has been a Physical Plant Plumber ever since, working on the entire campus at first and then moving to his current assignment, Zone Six, which is mostly married housing.

Shields does service work in Zone Six. I did plumbing construction for the first 20 years, but I like service work better because I move around more, says Shields. He most frequently repairs stopped-up sinks, leaky faucets, broken garbage disposals, stopped-up stools, All that fun stuff; you name it, it breaks.

After over 20 years of plumbing, Shields says there aren't too many daily challenges in his job anymore. Part of this is because his job hasn't changed too much in that time. Sinks and toilets have stayed pretty much the same, therefore so have our tools and procedures. Large jobs that require the shutdown of an entire building pose some challenges: workers must notify building inhabitants a few days before work begins, and be sure to have the job finished on time.

Shields enjoys all the people he meets through his work. I really like learning about different cultures and lifestyles, he says. During his years working in the married housing buildings, Shields has had opportunity to talk with some residents and says, I've probably had a meal from every culture in the world. Some are good . . . some I didn't ask for seconds. I've learned to have a lot of respect for people of other countries and their dedication to studies.

## Electronics

## Ken Horrocks



Ken Horrocks started working at Physical Plant in the summer of 1989. He worked in the Control Center as an operator of the Energy Management System for two and a half years. He now works out of Electronics as an Electronics Technician.

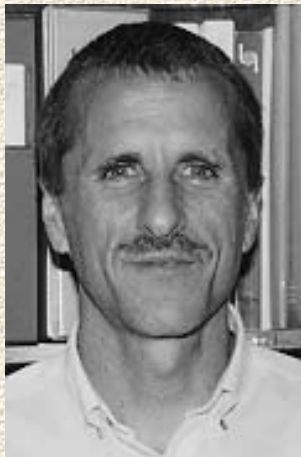
Horrocks installs and maintains all the heating and cooling controllers for the Energy Management System. These controllers operate and control air conditioners, chillers, air handlers and pumps: Everything that's responsible for maintaining a comfortable space temperature, says Horrocks. When he's not busy constructing systems, Horrocks spends time on preventive maintenance. We try to take care of small problems before they become big problems. Currently, Horrocks is working on a five year plan to phase out the oldest systems of temperature controllers and install new equipment. We monitor a space and determine if it's getting too hot or cool. If it is, we figure out what's wrong with the current system and redesign it to make it perform efficiently.

Horrocks' job changes every day. He may work at eight job sites in one day, and often has two to three construction projects going on at one time. The only routine in my job is that it's always changing, he says. He likes variety though, and says his days are interesting. The field of work fascinates me, and I get so many different challenges.

The most challenging part of Horrocks' job is working on a building he has never worked on before. When we inherit a new building, or a new renovation, we need to learn the building before we can debug it, he says. Horrocks says the recent renovation of the Music Recital Hall is a good example. When you walk into a big building that has all new controllers, and they have a problem, we have to learn how the system was designed to work before we can fix it.

## Engineering

### Doug Trueblood



Doug Trueblood is the Environmental Controls Coordinator for Engineering. He began working at Physical Plant in 1979 as a heating apprentice. In 1983 he started at his current position.

Trueblood's job duties have changed in the last eleven years. At first, he supervised four workers from the Heat Shop, which monitored and maintained all systems controlled by the Energy Management System (EMS). Along with his supervisory duties, he now reviews control specifications on all the IU campuses except for IUPUI. When reviewing control specifications, Trueblood makes sure the EMS equipment and controllers are set up and working in a way that meets IU design standards. A building's environment must maintain regulated levels of humidity, internal air quality and temperature.

Trueblood, four heating mechanics and two apprentices spend a lot of their time troubleshooting. If a building has a problem, we check it out. If it's a problem related to equipment, we can usually fix it ourselves. If a new design is needed, we give our suggestions to the engineers and let them design.

The advancement of computers allows Trueblood to spend eighty to ninety percent of his time in his office at his computer. I can look at all the systems from my PC and from there get in contact with people to fix any problems. I'll be out in the field for a day or two if there's something that needs my direct attention.

The most challenging part of Trueblood's work is prioritizing the many projects he has. There's enough work to keep us busy for the next 50 years. Everything is important deciding what's most important is the hard part.

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## Working Safely

### Safety signs and tags

Throughout the workplace there are all kinds of safety signs and tags. Every sign and tag has a very specific meaning. These meanings are defined in regulations issued by OSHA, the Occupational Safety and Health Administration. OSHA is the federal agency that regulates and enforces safety and health in most United States industrial sectors.

Whether you are a worker whose job specifically involves dangerous tasks, or one who comes into dangerous situations infrequently, you should know how to read and respond to safety signs and tags in the workplace. Here are some of the basics.

### Signs

Danger signs identify something as very high risk. The word Danger always appears in white letters in a red oval on a black background. When you see a Danger sign, you know there is immediate danger and that you have to take special precaution to prevent a serious accident, injury or even death. In some cases, the sign will include some explanation of the danger and/or of the precautions you should take. That information will be in black letters on a white background, below the word Danger on the sign. An example:

Caution signs indicate either potential hazards or unsafe practices. The word Caution is in yellow letters on a black background. A Caution sign tells you that the situation isn't as immediately dangerous as when you see a danger sign. But there's a definite risk, and you should take precaution to avoid having anything serious develop. A Caution sign may contain more information below the word Caution concerning the potential hazard, unsafe practice or proper precautions. This information will be in black letters on a yellow background. An example:

Safety Instruction signs give you a useful safety instruction or suggestion. The message is in white letters against a green background. Additional information may be below the message, in black letters on a white background. Safety instruction signs provide general advice or instructions for entering or working in a particular area, so pay

attention and do what they say. An example:

## Tags

OSHA also explains when and how to use safety tags. Tags are used to prevent accidents in hazardous or potentially hazardous situations which are out of the ordinary, unexpected or not readily apparent. They should be used until the hazard is eliminated or the hazardous operation is completed.

Tags give a safety alert with a signal word and a major message. As with safety signs, the signal word on a tag is the one that leaps out and gets your attention (for example, DANGER, CAUTION, BIOLOGICAL HAZARD).

Tags may also use another signal word: WARNING. A tag that says WARNING is used for situations whose hazard level is somewhere between DANGER and CAUTION.

OSHA doesn't require specific colors for tags, but it does recommend colors similar to those for signs:

- Red = Danger
- Yellow = Caution
- Orange = Warning
- Fluorescent orange or orange-red = Biohazard

In addition to the signal word, tags may contain other words and/or symbols that deliver the major message, explaining the specific hazardous conditions or the precautions. For example:

Those are the main types of signs and tags covered by the OSHA accident-prevention regulation. There are other regulations that contain sign and tag requirements. For example, the regulation on bulk oxygen systems states that permanent placards saying OXYGEN-NO SMOKING-NO OPEN FLAMES be placed at storage locations. But there are too many of those to cover in this brief article. They'll be covered at another time.

*Remember: Never remove a sign unless you're instructed to do so. Never cover one up, and never redesign them.*

## Improving Job Performance

### Energy to Spare

From a strictly physical point of view, your body has energy to spare. Our bodies store tremendous reserves of all the enzymes, acids and chemicals that make us go. But even with all that untapped energy, we sometimes droop in mid-afternoon because we've robbed ourselves of energy.

You run on two things: oxygen and fuel (just like a car). Both are equally important, but bodily fuel fill-ups usually occur only three times daily, while oxygen uptake is constant. Each draw of air enriches your energy mix. To get as much as possible of the best air you can, do the following:

## Make sure you're properly inflated

1. Exhale fully; you'll take deeper breaths with empty lungs
2. Breathe through your nose, focusing on making your stomach move instead of your chest. This expands the lower lungs, letting you take in more air than with shallower chest breaths.

## Adjust your alignment

If you sit at a desk, you'll breathe better and have more energy all day long if your desk posture doesn't impede air flow.

1. Center your weight over your hips
2. Keep your head up
3. Keep your feet flat on the floor

## Rev the engine

Sing in the shower. (Yes.) Even if you do it badly, singing makes you breathe more deeply, especially if it's loud and full of words.

## Keep the air filter clean

Cigarettes not only gunk up the lungs, but they steal energy by clogging airways with mucus, constricting blood vessels and making it harder for cells to take in oxygen.

## Open er up once in a while

Vigorous exercise is the most effective energizer known. It immediately sends more oxygen to the brain and body, prevents blood vessels from clogging, strengthens the heart, relieves the tiring effects of stress and improves your mood.

You've also got to put the right kind of gas in your tank. If you want to keep your engine running all day long, with energy to spare, do the following:

## Use the right octane

Carbohydrates burn fast, clean and pure; fats and proteins don't. Fat is the lowest octane fuel around. It delivers virtually no energy to the body, even though it's packed with calories. The body would rather store fat than burn it. Carbohydrates should take up about 60% of what you eat.

## Fuel up in the morning

Breakfast is the most important meal of the day. Make it a high- carbohydrate, low-fat breakfast.

## Refuel throughout the day

Eat four or five times a day. Reduce the amount you eat at any one time so you can spread the same calories more evenly over the day. Energy required for digestion is not available for brain or muscle use. Try mid-morning or mid-afternoon mini-meals: a banana, orange, cup of raisins, dates, melon, apricots, apple or figs.

## **Know your additives**

To help your body process energy more efficiently, add daily multivitamins, zinc (10 - 15 milligrams), magnesium (300 mg.) and copper (2 mg.).

## **Other hints to avoid energy drain**

- Don't stare at a computer monitor. Take your eyes off the screen every few minutes and let them readjust.
- Lower your monitor so that you're looking down at it as much as possible; your eyes won't have to open as wide and won't dry out as easily.
- Get into brighter light, outdoors, if possible. Bright light has caffeine-like alerting power.
- If you're working indoors, try to have temperature kept between 65 and 72 degrees. Above or below this range increases lethargy and reduces performance.
- On repetitive tasks, take a break at least every 20 minutes.

# **Communication Tips**

## **Customer service clarity**

When you speak with customers 3 whether they are internal to your department, or external 3 avoid fuzzy phrases that really don't mean anything. Be clear about what will happen.

*Don't say:*

*As soon as possible.*

Customers may think you're going to drop what you're doing and handle their needs right away; when you don't, they'll be unhappy. Better to say exactly when (day, time) you'll deal with their situation.

*Someone will call you back.*

Customers get anxious when they don't know who will call or when, so they call you again, doubling your trouble 3 problem still unsolved, and customer who thinks you don't care enough.

*Better to say \_\_\_\_\_ will call you on \_\_\_\_\_ (day).*

***I'll put a rush on this.***

Customers may have a different idea than you of what a rush is. Better to say precisely how fast you'll process the order.

***I'll do my best.***

Do you mean you don't usually do your best, but you will this time? Better to ensure you give great service routinely.

Indiana University Bloomington



# Physical Plant PERSPECTIVE

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## Craftworkers learn machinist skills

Five Building Maintenance craft-workers volunteered to stay after work this summer to learn machinist basic skills: David Schneider, heating mechanic; David Fowler, heating mechanic; Bennie Flynn, sheet metal mechanic; John Black, electrician; and Mark Myers, sheet metal mechanic.



Physical Plant does not have a separate machine shop. However, workers in a variety of craft shops need fundamental skills in milling, lathes and working with drawings.

Management offered the four-hour classes for 15 weeks at no cost to the employees. The classes were taught by John Waltke, a veteran machinist in the IU Department of Psychology. They covered the following topics:

- machine shop practice
- measurement
- drawings
- layout work
- lathe
- vertical milling machine

Each employee received a framed certificate of completion and a personal thank-you from Physical Plant Assistant Director Hank Hewetson for their commitment to the department in learning new skills.

## Staying fit and having fun



In today's busy world of fast food, extra hours at work and stress, keeping our bodies and minds healthy can be difficult. In 1991, Physical Plant came up with a way to provide employees with information and opportunities to incorporate physical fitness into their lives. We started the Physical Plant Wellness Council.

The council is made up of eleven people who represent various work areas in Physical Plant, the Architects Office and Vice President of Administration. With the support of the Training & Development Office, the Council plans and implements programs to educate employees on health-related issues, and to improve and maintain employees' health.

One example of such a program is the YMCA Corporate Challenge. Many staffers are involved with the annual event, in which area businesses and organizations compete in events like golf, basketball, volleyball, bowling and fourteen other events. The Wellness Council facilitated Physical Plant's involvement in the competition, which has provided fun and fitness for an average of 100 employees each year.

Every two or four weeks, some staffers pay for workplace massages provided by Oh Well!, a local occupational wellness company. The schedule started in May, helping employees deal with work-related stress. The massages are done by Oh Well! certified massage therapists. Participants sit in a specially designed chair, remaining fully clothed, for fifteen minutes of upper body, arm and hand

massage.

The Wellness Council has also made Happy Tests available to Physical Plant employees. The tests are conducted by appointment at the IU Health Center. They check body fat composition, muscle strength, flexibility, balance and coordination, total lung volume and oxygen uptake. The cost of the test is covered by Physical Plant. Employees may schedule these tests during regular work hours.

The Wellness Council newsletter Physical Fitness Update also lists all upcoming events and activities.

These are only a few of the programs offered with the help of the Wellness Council. Some others are free passes to the HPER and SRSC, Tai-Chi classes, recreational volleyball and brown bags on stress management. To find out more about any of these, or to suggest other activities, contact your Wellness Council representative, listed below.

## Fifty years at IU -- and still working



About 75 Physical Plant employees entered the I-room at Assembly Hall on September 13 to celebrate Gene Winger's 50 years of dedication to Indiana University and Physical Plant. This wasn't a retirement party, though; for Winger, Monday was a workday like any other.

The presentation was led by Building Maintenance Assistant Director Hank Hewetson, Assistant Vice President for Facilities Operations Gary Kent, and IU Vice President of Administration Terry Clapacs. They presented Winger with various plaques, gifts and kind words. One of the most unique gifts was a caricature of Winger drawn by Don Merchant, a CTC worker from the Paint Shop. As Hank Hewetson put it, the picture captured the

essence of Gene over 50 years. Winger's characteristic toothpick and hat completed the image. The Carpentry Shop gave Winger a watch and a plaque recognizing him for 50 years of apprenticeship, and Terry Clapacs informed everyone that a red sunset maple tree has been planted near the Service Building to symbolize Winger's accomplishments.

Each presenter praised Winger's dedication and spirit:

*I've always looked forward to having a meeting with Gene because I know that Gene always has the best intentions, he always wants to do the right thing, even if we don't agree on what the right thing is.*

Hank Hewetson,  
Assistant Director,  
Building Maintenance

*Gene is a person that I've always found has been concerned about the rights of his co-workers. Most times we agreed, but there have been sometimes when we've agreed to disagree, But at all times, we've agreed to be friends, and I treasure that friendship very much.*

Gary Kent,  
Asst. Vice President  
Facilities Operations

*Gene Winger is a good example of a strong thread that makes the fabric of this University as great as it is.*

Terry Clapacs  
Vice President, Administration

Winger started working at Physical Plant in 1946 in the Carpentry Shop. Even more unique than the fact that he's been at Physical Plant for 50 years, is that he has worked out of the same shop the whole time. Winger was very grateful for the recognition and gifts, and said it had been a good 50 years. If it was bad, I wouldn't have stayed here this long, he said. He was happy to see so many of his friends celebrating with him and said, I've enjoyed probably everyone in this room.