

INTRO TO INDOOR AIR QUALITY



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INDOOR AIR QUALITY



- NOT REALLY A NEW CONCERN OR ISSUE
- PREHISTORIC CAVES WERE FOUND TO HAVE VENTILATION PROVISIONS
- 1ST "CODE" IN THE EARLY 1600'S
- YABBADABBADOO!

OUTSIDE AIR QUALITY

OZONE LAYER



- o-zone / o'zon *n* 1. form of oxygen, (O₃), having marked oxidation properties, produced by the discharge of electricity through air or oxygen, chiefly used in bleaching and in purifying water.

INDOOR AIR QUALITY AWARENESS

-BY ALLEN HENDERSON

- IAQ INVESTIGATIONS
 - FROM COMPLAINTS
 - BEING PROACTIVE
- CODES, STANDARDS & GUIDELINES
 - NYC DEPT. OF HEALTH
 - TEXAS IS IN THE "MOLD BELT"



INDOOR AIR

- Acceptable indoor air is defined by ASHRAE:
- "AIR IN WHICH THERE ARE NO KNOWN CONTAMINATES AT HARMFUL CONCENTRATIONS AND WHICH A SUBSTANTIAL MAJORITY (USUALLY 80%) OF THE PEOPLE EXPOSED DO NOT EXPRESS DISSATISFACTION"
- -ASHRAE 62-1999

POOR INDOOR AIR QUALITY

= PEOPLE EXPRESS DISSATISFACTION
DUE TO STRESSORS (ENERGY AND MASS)

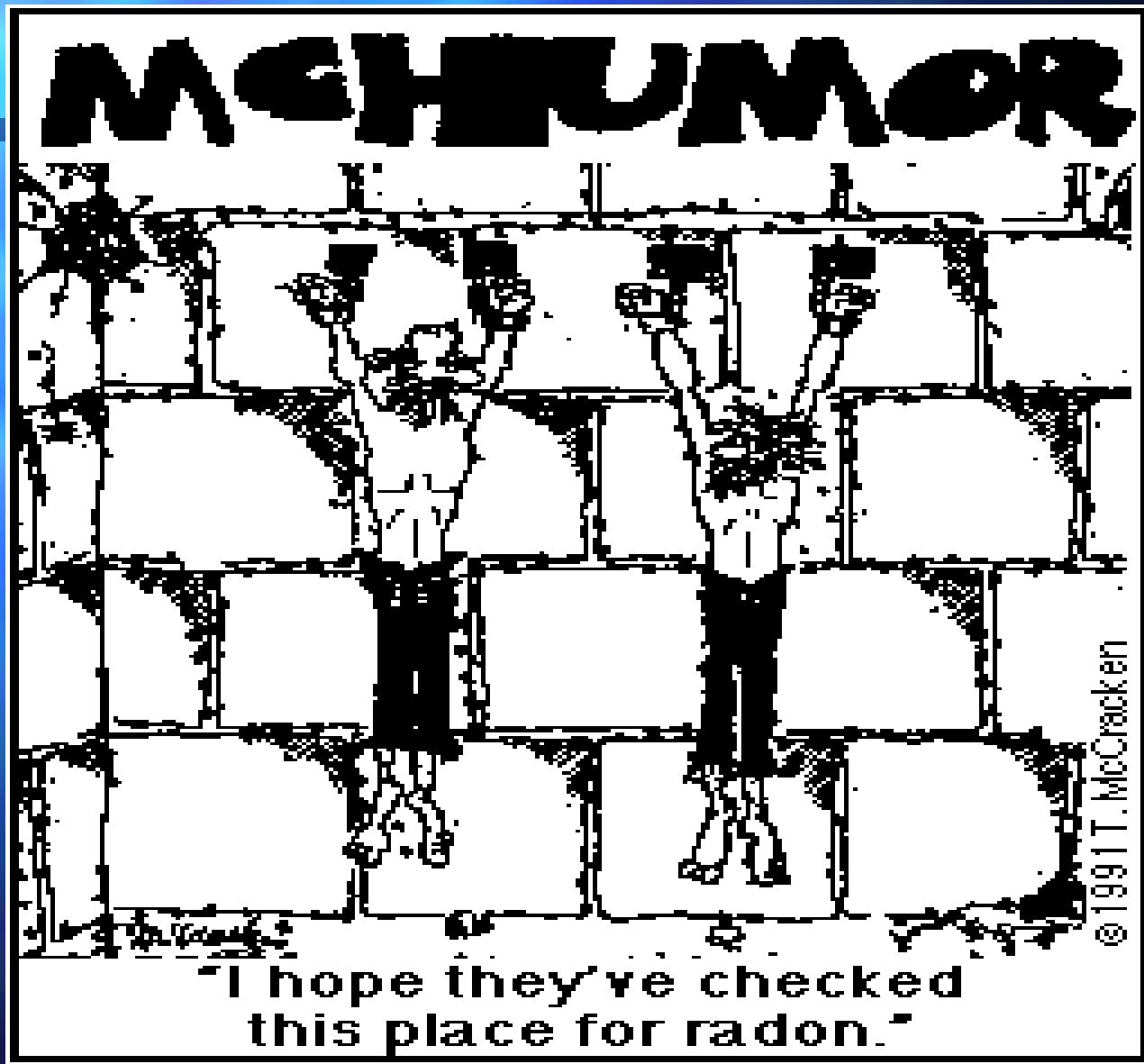
■ ENERGY STRESSORS

- SOUNDS FROM A STEREO
- VIBRATION CAUSED BY HVAC OR OTHER EQUIPMENT
- MICROWAVES
- VISABLE LIGHT

MASS STRESSORS:

- SMOKE
- FUMES
- BACTERIA
- INERT PARTICLES
- SPORES (DRY & SLIMY)
- GASES
- VAPORS

CHECK FOR RADON



OCCUPANT SUSCEPTABILITY

- CONCENTRATIONS AND EXPOSURE TIME OF STRESSORS
- AGE OF INDIVIDUAL
- PHYSICAL CONDITION OF INDIVIDUAL
- BODY TYPE
- PSYCHE OF INDIVIDUAL
- ABILITY OF INDIVIDUAL TO CONTROL STRESSORS
- IMMUNO-COMPROMISED INDIVIDUALS
- CHILDREN, ELDERLY AND INFIRMED ARE MOST SUSCEPTABLE



SUSCEPTABLE TO POOR IAQ



SYMPTOMS OF POOR INDOOR AIR QUALITY

- HEADACHES
- FATIGUE
- SKIN DISORDERS
- FEVER
- LOSS OF MEMORY
- DROWSINESS
- NAUSEA
- UPPER AND LOWER RESPIRATORY PROBLEMS

PSYCHOSOCIAL STRESSORS

- WORKER RELATIONS WITH OTHER WORKERS
- LABOR-MANAGEMENT CLIMATE
- JOB SECURITY
- JOB SATISFACTION

WHAT CAN CAUSE POOR IAQ?

- WATER AND WATER VAPOR INTRUSION
 - RAIN EVENTS – BUILDING ENVELOPE AND AREA DRAINAGE
 - FROM EMERGENCY LEAKS
 - HVAC – INSUFFICIENT QUANTITIES OF OUTSIDE AIR, NEGATIVE BUILDING PRESSURIZATION, POOR HUMIDITY CONTROL & SYSTEM HYGIENE, POOR VENTILATION
 - CANDLES, PLANTS, LITTLE CUTE DESKTOP WATERFALLS, REFRIGERATORS, VACUUMS, HUMIDIFIERS, INCENSE, PERFUME AND PEOPLE WHO DON'T BATHE
- CONTAMINATES FROM WITHIN AND FROM OUTSIDE
 - PARTICULATES
 - CHEMICALS, GASSES & VAPORS
 - CRITTERS & BUGS
 - POOR PEST CONTROL APPLICATIONS

DUST MITE



MOLDS



Aerotech Laboratories, Inc.



WHAT CAN WE DO TO HELP?

- INCREASE AWARENESS
- REPORT POTENTIAL PROBLEMS PROMPTLY
- CLEAN UP AND DRY OUT WATER INTRUSION PROMPTLY
- PROPERLY MAINTAIN EXISTING SYSTEMS
- CLEAN UP YOUR MESS
- USE AVAILABLE RESOURCES
- WORK SAFELY FOR YOUR SAKE AND OTHERS AROUND YOU



MORE YOU CAN DO? – YES!

- ALL PERSONNEL SHOULD BE EDUCATED ON WHAT TO SAY AND WHAT NOT TO SAY TO OCCUPANTS AND PARENTS.
 - “BUILDINGS DON’T GET SICK – PEOPLE DO”
- MANAGEMENT, DISPATCHERS AND SERVICE TECHNICIANS SHOULD PAY ATTENTION TO COMMENTS MADE BY OCCUPANTS.
- PREVENTATIVE MAINTENANCE TECHNICIANS SHOULD BE PROPERLY EDUCATED ON WHAT TO LOOK FOR, HOW AND WHO TO REPORT PROBLEMS TO.
- UNDERSTAND PROPER HVAC HYGIENE & HYGIENE PROCEDURES.

IAQ SUCCESS!

- YOU PLAY AN IMPORTANT PART IN CONTROLLING THE INDOOR ENVIRONMENT OF OTHERS – IN THIS REGARD YOU ARE RESPONSIBLE FOR THEIR HEALTH AND WELL BEING. SO – BE RESPONSIBLE!
- “IF YOU ARE NOT PART OF THE SOLUTION, YOU ARE PART OF THE PROBLEM”



CONCLUSION TO INDOOR AIR QUALITY

