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Ellen Hochheiser, Ph.D. C.H.P.
803 Catskill St.
Richland WA 99352

March 5, 1997

Sharon and Bob Huxford
1202 Seventh St.
Covington IN 47932

Dear Mr. And Mrs., Huxford:

I am currently writing a professional enrichment program on " Communicating Health Physics". This seminar will discuss successful techniques in explaining radiation protection to different types of individuals, including the general population. I would like permission to use your section (pages 13-14) on Radioactive Red in The Collector's Encyclopedia of Fiesta. I would like to include these pages in the handout and excerpt them on overheads. I anticipate 60 participants at my seminar. Your discussion on the radioactivity would make my presentation stronger.

If there is a problem with Dr. Ziemer's work being copyrighted , please contact Paul, he is an active member and the past president of the Health Physics Society.

I look forward to hearing from you. If you have any questions please call me at work, (509)376-2190 or at home (509) 946-7265.

Sincerely,

Ellen

Ellen Hochheiser

I, Sharon Huxford, give permission to Ellen Hochheiser to use this information for her forthcoming seminar.

Sharon Huxford

Communicating Health Physics

Ellen Hochheiser, PhD CHP
Fluor Daniel Hanford, Inc.
Richland, Washington

To Be Presented at
Health Physics Society Annual Meeting
San Antonio, Texas
June 6 to July 3, 1997

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Assistant Secretary for Environmental Management

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Communicating Health Physics

Ellen Hochheiser, Ph.D. CHP

Basic Rules

- Listen, Listen and Listen

Basic Rules

- Never talk down to any individual
- Always show respect
- Do not belittle other peoples feelings and emotions
- Stay within the individuals comfort zone of knowledge
- Use analogies where applicable

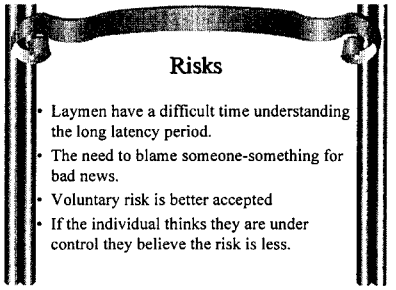
Basic Rules

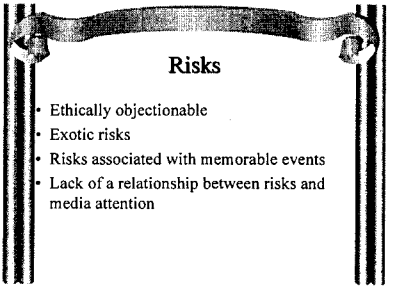
- Remember that you are biased too.
- You will never truly trust someone with whom you feel uncomfortable with and it is hard to be honest with someone you don't trust.
- Only make promises you can keep
- Don't be afraid to say "I don't know off the top of my head, but I will get back to you."

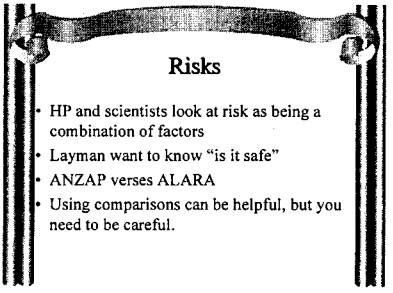
Basic Rules

- Never try to bull your way through.
- Don't be afraid to ask them to repeat a question
- Use AV where possible
- Choice of units
- Beware of statistic traps

Risks


Risks
• Laymen have a difficult time understanding the long latency period.
• The need to blame someone-something for bad news.
• Voluntary risk is better accepted
• If the individual thinks they are under control they believe the risk is less.


Risks
• Ethically objectionable
• Exotic risks
• Risks associated with memorable events
• Lack of a relationship between risks and media attention


Risks
• HP and scientists look at risk as being a combination of factors
• Layman want to know "is it safe"
• ANZAP verses ALARA
• Using comparisons can be helpful, but you need to be careful.

Trust is low

- Outrage factors
- Acknowledge the lack of trust
- Be personal
- Share information

Trust is low

- Ask the individual how you could gain their trust
- Indicate steps you plan to prevent trust eroding actions from happening again.
- Never say you will do something and don't do it

Common threads

- Misuse of Science
- Companies trying to sell something
- "Experts"

Misuse of Science

- "The menace to health involves the genetic damage which is Unrepaired, Unreparable or misrepaired . The troublesome trio" … Ionizing radiation has demonstrated beyond any doubt its ability to break both strands of the DNA double helix at the same time. This ability has made it "Famous" among toxic agents as a chromosome- breaker (if only one DNA strand breaks, the other strand hold the chromosome together)." Dr. Gofman

Misuse of Science

- Examples of isolated studies
- Healthy worker effect
- Dismiss radon
- Moving to Colorado or background dose.

Companies trying to make a buck on fear

- "Physicians are often the only science professional known to their patients and are almost always a trusted source of information about science in general and health in particular. Radon does increase the risk of lung cancer, and physicians have an obligation to educate their patients about the health risk associated with radon."

Decision not to badge

- HP
- Workers
- Manager of workers
  - This is upsetting my workers, why should I do away with badges?
- Your boss (not radcon)

External annual dose of 1500 mrem in a year

- HP
- Individual
  - "Ever since Czech miners began digging for uranium four centuries ago, evidence has been piling up to indicate that radioactivity has been killing and debilitating people who work with it." (Killing Our Own)

External annual dose of 1500 mrem in a year

- Individuals manager (line management)
- Your boss (Environmental, Health and Safety)
- Regulator
- Spouse

External annual dose of 1500 mrem in a year

- Individuals manager (line management)
- Your boss (Environmental, Health and Safety)
- Regulator
- Spouse

Skin Contamination

- Hp
- Individual
- Spouse
- Your Boss (line manager)

Release into air

- HP
- Company HR person
- Line manager
- Regulator
- Homeowner downwind

Diagnostic procedure

- HP
- Dosimetry
- Line manager
- Individual

A Basement which reads 6 pCi/l living space reads 1.5

- HP
- Realtor
- Home owner
- Your brother the homeowner
- Your sister the purchaser
- Regulator

A Basement which reads 50 pCi/l, basement is finished.

- HP
- Realtor
- Home owner
- Your brother the homeowner
- regulator

Food Irradiation

- HP
- Supermarket manager
- Consumer
- Worker at irradiation facility

Rem to fetus

- HP
- Woman
- Physician
- Husband
- Regulator

Conclusion

- You need to respect your audience, listen to their concerns and respond.

Listen, Listen and Listen

The end

THAT RADIOACTIVE RED

Exactly when the first rumors began circulating, hinting that the red Fiesta could be 'hazardous' to your health, is uncertain. In most probability, it was around the time that Fiesta red was reintroduced after the war and was no doubt due to the publicity given to uranium and radioactivity during the war years. Clearly another case where 'a little learning can be a dangerous thing.'

In any case, this worry must have remained to trouble the minds of some people for several years. Even today the subject comes up occasionally and remains a little controversial, though most folks in this troubled age of acid rains, high unemployment, cholesterol-free diets, and constant reminders that 'cigarettes are hazardous to your health' don't really seem too upset by it anymore.

The following letter appeared in the *Palm Beach Post Times* in February 1963. It was written tongue-in-cheek by a man who had evidently reached the limit of his patience. HLC sent it to us from their files; it has to be a classic.

Editor:

After reading about the radioactive dishes in your paper, I am greatly concerned that I may be in danger, as I had a plate with a design in burnt orange, or maybe it was lemon.

This plate was left to me by my great-grandmother, and I noticed that whenever she ate anything from it, her ears would light up; so we all had to wear dark glasses when dining at her house.

I first became suspicious of this dish when putting out food for my dog on it I noticed the dog's nose became as red as Rudolph's; and one day a sea gull fed from it, and all his feathers fell off; then one night when the weather was raw I placed it at the foot of my bed, and my toenails turned black.

Using it as a pot cover while cooking eel stew, the pot cracked; and reading the letters in your paper last week have concluded I am not the only person having a cracked pot in the house; so perhaps some of your other readers used a plate for a cover.

I finally threw this plate overboard at a turn in the channel, now a buoy is no longer needed there, as bubbles and steam mark this shoal.

Will you please ask your Doctor or someone if they think this plate is radioactive, and if so am I in any danger, and if so from what?

(Name Withheld)

Several years ago we were allowed the opportunity to search through old company literature in the event that some bit of pertinent information had escaped our notice. It was obvious from letters contained in these files that HLC had always been harassed with letters from people concerned with the uranium content of the Fiesta red glaze. Their replies were polite, accommodating, and enlightening. Here in part is one of their letters:

> Before 1943 the colorant (14% by weight of the glaze covering the ware) is uranium oxide (U-308), with the uranium content being made up of about 0.7% U-235 and the remainder U-238. Between 1943 and 1959 under license by AEC, we have again been producing a red glazed dinnerware. However the colorant now used is depleted technical grade U-308 with the uranium content being made up of about 0.2% U-235 and the remainder U-238.

Studies were conducted for us by Dr. Paul L. Ziemer and Dr. Geraldine Deputy (who is herself an avid Fiesta collector) in the Bionuclionics Department of Purdue University. The penetrating radiation from the uranium oxide used in the manufacturing of the glaze for the red Fiesta ware was measured with a standard laboratory Geiger Counter. All measurements are tabularized in units of milliroentgens per hour (mR/hr).

ITEM	SURFACE CONTACT	4" ABOVE SURFACE	ALONG RIM
13" Chop Plate	0.8	0.35	0.1
9" Plate	0.5	1.5	0.07
Fruit Bowl	1.5	0.5	0.1
Relish Tray Wedge	0.8	0.2	0.02
Cup	1.3	0.2	0.03

In order to compare the above values to familiar quantities of radiation, we calculated the exposure of a person holding a 13" chop plate strapped to his chest for twenty-four hours. This gives twenty milliroentgens per day. Safe levels for humans working with radiation is one hundred milliroentgens per week for a five-day week or twenty milliroentgens per day as background radiation.

Some other measurements of interest for comparison purposes are:

ITEM	RADIATION
Radium Dial on a Watch	20mR/hr
Chest X-Ray	44 mR per film
Dental X-Ray	910 mR per film
Fatal Dose	400,000 mR over whole body

So you see — unless you've noticed your grandmother's nose glowing — we're all quite safe!

One other small worry to put to rest (some have mentioned it): there is no danger from the fired-on glazes, which are safe as opposed to a shellac-type color which could mix with acid from certain foods and result in lead poisoning.

Back in May of 1977 on an Eastern television station, an announcement was made concerning the pros and cons of the safety of colored-glazed dinnerware. Fiesta was mentioned by name. We contacted the Department of Health, Education and Welfare, FDA, in Chicago, Illinois. This in part is their position, and it is supported by HLC:

> The presence of lead, cadmium, and other toxic metal in glaze or decal is not in itself a hazard. It becomes a problem only when a glaze or decal that has not been properly formulated, applied, or fired, contains dangerous metals which can be released by high-acid foods such as fruit juices, some soft drinks, wines, cider, vinegar, and vinegar-containing foods, sauerkraut, and tomato products.

HLC passed the rigorous federal tests with flying colors! In fact, the only examples of earthenware posing a threat to consumers were imported, and hobbyists were warned to use extreme caution in glazing hand-thrown ceramics.

The FDA report continues:

> Be on the safe side by not storing foods or beverages in such containers for prolonged periods of time, such as overnight. Daily use of the dinnerware for serving food does not pose a hazard. If the glaze or decal is properly formulated, properly applied, and properly fired, there is no hazard.

...R.I.P.