

**DRAFT**

# THE RADIOACTIVE BOY SCOUT:

NOW EVERYONE CAN GET  
INTO THE NUCLEAR ARMS  
RACE

# WHAT IS A HACKER

- SOMEONE VERY CREATIVE
- AN EXPLORER
- REVERSE ENGINEER
- SOMEONE WHO DOESN'T HAVE A BOX TO THINK OUT OF
- DOESN'T DRINK THE KOOLAIDE
- BOLDLY GOES WHERE NO MAN HAS GONE BEFORE

# RADIATION, GAMMA RAYS

- HIGH ENERGY PHOTONS
- CESIUM 137
- COBALT 60

# NEUTRONS

- PRODUCED BY A REACTOR
- NO CHARGE
- CAN MAKE ELEMENTS RADIOACTIVE

# RADIATION, ALPHA, BETA, PARTICLES

- ALPHA PARTICLES, HELIUM NUCLEUS  
+2 CHARGE
- BETA PARTICLES, ELECTRON , -1  
CHARGE
- ONLY DANGEROUS IF INHALED OR  
INGESTED

# ATTACKS IN THE PAST THAT COULD HAVE UTILIZED

- RUSSIAN POLONIUM 210 INGESTION
- IN 1984 THE FOLLOWERS OF BHAGWAN SHREE RAJNEESH SPRAYED SALMONELLA INTO SALAD BARS IN ANTELOPE COUNTRY
- IN 1966-7 THE CIA AND DEFENSE DEPT SPRAYED A HARMLESS SUBSTANCE ON TO THE TRACKS OF TWO NYC SUBWAY LINES

# PASITIVE DETECTORS

- GEIGER COUNTER
- ION CHAMBER SURVEY
- GAMMA SCINTILLATION DETECTOR
- COUNTER MEASURES

# ACTIVE DETECTORS

- ILLUMINATE OBJECTS WITH NEUTRONS OR GAMMA RAYS
- NUCLEAR INTERESTING OBJECT WILL PRODUCE NEUTRONS
- COUNTER MEASURES NONE
- DRAWBACKS, IT MIGHT SET OFF A CRUDLEY MADE ATOM BOMB



# OVER VIEW OF DAVID HAHN

- LIVES IN A SUBURB OF DETROIT
- BOY SCOUT, ATOMIC ENERGY MERIT BADGE

# SOCIAL ENGINEER

- PROFESSOR HAHN
- CZECH REPUBLIC, SAMPLES URANINITE AND PITCHBLEND
- PROFESSOR PHYSICS INSTRUCTOR CON SOME GOVERNMENT OFFICALS
- RECEIVED A REPLY FROM ONE OUT OF 5 LETTERS
- LEARNED FROM GOVERNMENT BERYLLIUM PRODUCES NEUTRONS

# DAVID HAHN THE CHEMIST

- GOLDEN BOOK OF CHEMISTRY EXPERIMENTS
- GUN POWER
- NITRIC ACID
- YELLOW CAKE

# THE QUEST FOR FISSIONABLE FUEL

- URANIUM-235,233,PLUTONIUM-239,240
- THORIUM-232 BECOMES 233 + NEUTRON
- LANTERN MANTELS CONTAIN THORIUM
- COPIOUS AMOUNT OF MANTELS

# THE NEUTRON GUN

- A DEVICE TO TRANSFORM ELEMENTS
- ALPHA PARTICLES FIRED AT ALUMINUM OR BERYLLIUM PRODUCE NEUTRONS
- AMERICIUM 241 FOUND IN SMOKE DETECTORS PRODUCES ALPHA PARTICLES
- NEED AT LEAST 100 DETECTORS

# NEUTRON GUN 2

- RADIUM- USED AS A PAINT ON CLOCK FACES

# REACTOR START UP

- NEUTRON GUN BECOMES CORE OF THE REACTOR
- TINY FOIL WRAPPED CUBES CONTAINING THORIUM
- CUBES CONTAINING CARBON
- OUTER LAYER OF THORIUM
- SHOE BOX SIZE ABOUT 4500 GRAMS

# SCRAM

- NO CONTROL RODS
- GETTING MORE RADIOACTIVE DAY BY DAY
- DETECTING RADIATION FROM FIVE HOUSES DOWN
- PUT MOST OF THE REACTOR PARTS IN A TOOLBOX



# DAVID'S DEVICE VS THE NAZI URANIUM ENGINEER

- NO CONTROL RODS
- RADIATION BUILDS UP SLOWLY
- MUST BE DISASSEMBLED TO STOP
- CAN EXPLODED FROM PRESSURE  
BUILD UP

# WHAT I THINK

- 3-5 WORLD WIDE HOBBYIST, MAYBE, 30-50 AFTER I FINISH THIS TALK
- NOT POLITICAL
- 1000 TO 1, 1,000,000 TO 1, IMPROVEMENT CAN BE REENGINEER BY HIS DESIGN

# WHAT WE DON'T KNOW

- NEUTRON FLUX
- GAMMA RAY VALUE
- ALL HIS NOTE BOOKS WERE BURNED

# WHAT WE KNOW

- THE EPA DIDN'T GET THE GOOD STUFF
- THE GARBAGE GOT THE RADIOACTIVE GOOD STUFF

# HOMELAND SECURITY MODEL

- COBALT 60, CESIUM 137
- PENCIL
- HIGH EXPLOSIVE
  
- MAYBE THIS IS A DISINFORMATION MODEL
- COULD HOMELAND SECURITY BE SMARTER THAN WE THINK

# NUCLEAR HACKER BECOMES A TERRORIST

- WHAT TO DO WITH A HOT  
RADIOACTIVE SOURCE COBALT  
60, CESIUM 137

# SEED CORN TO MAKE OTHER THINGS RADIOACTIVE

- NANO SIZE
- 1-100NM,
- HUMAN HAIR 80,000 – 90,000NM
- RED BLOOD CELL 7,000NM
- PASS HEPA FILTER
- INERT COMPOUNDS MAY BE TOXIC AT THE NANO SIZE LEVEL

# BUILD THE PERFECT DIRTY BOMB

- NANO SIZE
- NRC TOOLBOX
- MULTIPLE BOMBS OF DIFFERENT SIZES
- ONLY BLACK POWDER IS NEEDED



# STRATEGIC TARGETS

- FIRE DEPT HAZMAT TRUCK
- DECON SHOWER TRUCKS
- HAZ-MAT 1
- NYPD HAZMAT AT ESU base (Floyd Bennett Field )

# WHAT CAN SET OFF A RADIATION ALARM

- URANIUM MINERALS
- RADIOLOGICAL  
PROCEDURES, SPECT, PET SCAN
- RADIOACTIVE DRUGS
- RADIO SEEDS

# MY RADIATION ALARM GOES OFF ON THE A TRAIN

- 911 CALL
- NYC INFORMATION HOT LINE THEY  
DON'T KNOW THE WORD "RADIATION"
- CALL TO NYPD TERRORIST HOT LINE

# WHAT THEY DIDN'T ASK ON THE HOT LINE

- DETECTOR SATURATION
- HIGHEST READING
- NEAR FOOD STUFFS

# WHAT I HAVE OBSERVED

- IN THE PAST 22 MONTHS ALL HOT(10,000 CPS) URANIUM MINERALS HAVE DISAPEARED FROM THE MARKET

# NOW IT GET REALLY SCARY

- NEXT SLIDE IF YOU CAN TAKE IT

# 9/11 DISINFORMATION

- THE GOVERNMENT TOLD RESCUERS IT WAS SAFE AT GROUND ZERO
- WHAT HAPPENS IF A TERRORIST BOMBS A VERY CRITICAL LOCATION.
- THE GOVERNMENT SAYS IT IS SAFE
- THE MEDIA SAVVY TERRORIST SAY IT ISN'T

# THE 10 KILOTON BOMB WITH SALT HOLD THE PEPPER

- COBALT 60, 5.27 YRS
- CESIUM 137, 30.2 YRS
- ZINC 65, 244 DAYS