

JAN 31 TRENKLER LEAHY AT 7 WHITELAWN AVE

1) LEAHY SAYS THAT I TALKED ABOUT **BLASTING CAPS**
AND **SHUNTS**

* BEING IN THE TWO WAY RADIO BUSINESS AND SELLING TO CONSTRUCTION COMPANIES, I WOULD BE ASKED WHAT EFFECT A HAND HELD TWO WAY RADIO WOULD HAVE ON **BLASTING CAPS** THAT WERE BEING USED ON CONSTRUCTION SITES. FOR THIS I WOULD ASK THE CLIENT CERTAIN DETAILS CONCERNING **BLASTING**, AND THEN DO THE RESEARCH. (SUCH AS PERMISSABLE POWER OUTPUT FROM A RADIO, BASED ON OSHA RULES, AROUND CERTIAN HAZARDOUS LOCATIONS INCLUDING **BLASTING AREAS**.)

* ALL MOTOROLA RADIO TRANSMISSION DEVICES COME WITH A STANDARD WARNING FOR USE AROUND UNSHIELDED **BLASTING CAPS** AND OTHER HAZARDOUS LOCATIONS.

* PERINI CORPORATION WAS ONE - I WORKED AT THE THIRD HARBOR TUNNEL PROJECT, THE GULF RADIO PROJECT.

* J.F. WHITE CONSTRUCTION WAS ONE
THEY DO **BLASTING** ON HIGHWAY PROJECTS.

* AMERICAN OVERSEAS AND SHIPPING (GENERAL DYNAMICS) WAS ONE
THEY HAD QUESTIONS ABOUT INTRINSICALLY SAFE RADIOS FOR HAZARDOUS LOCATIONS (YOU HAVE A LETTER FROM AMSEA TO ME AT ATEL OR FROM ATEL TO AMSEA)

IN PAGE 30 LINE 16 OF DAY 15 GERTNER ASKS LEAHY IF ANYONE WITH EXPERTISE IN MICROWAVES WOULD BE SOMEONE WHO WOULD KNOW THE RELATIONSHIP BETWEEN WHAT HE DOES AND **EXPLOSIVES** IN THE CONSTRUCTION AREA. LEAHY ANSWERS "WELL ACTUALLY, THE **EXPLOSIVES** ARE USED TO REMOVE STONES AND SO FORTH, AND THEN THEY WOULD PUT THE TOWER IN, AND THEN THE MICROWAVE PORTION WOULD GO IN LAST. SO THE MICROWAVE EQUIPMENT WOULD GO IN LAST. SO THE **BLASTING** SHOULD HAVE BEEN COMPLETED BY THE TIME THE MICROWAVE EQUIPMENT IS INSTALLED."

** WHAT LEAHY OVERLOOKS IS THE FACT THAT PART OF MY BUSINESS WAS TO INSTALL TOWERS AND THEN INSTALL THE MICROWAVE PORTION. THE POINT BEING, IF I WERE TO USE AN EXCAVATION COMPANY TO DIG A HOLE FOR A TOWER, ONE OF THE FIRST QUESTIONS I WOULD ASK WOULD BE, IF, DURING THE COURSE OF EXCAVATION, WE WERE TO HIT EITHER BEDROCK OR SOME KIND OF ROCK TOO LARGE TO REMOVE WITH AN EXCAVATOR, WOULD THEY, AS A LAST RESORT, BE ABLE TO **BLAST** OR WOULD THEY KNOW A COMPANY THAT COULD **BLAST**. IN MY STANDARD CONTRACTS, WHEN BUILDING A TOWER FROM FOUNDATION UP, I ALWAYS PUT IN A PARAGRAPH THAT ALLOWS FOR EXTRA PAYMENTS IF, WHILE "DIGGING", AN UNKNOWN MATERIAL IS ENCOUNTERED AND OTHER MEASURES HAVE TO BE TAKEN TO CONTINUE THE "DIG". THIS COULD INVOLVE EITHER A LARGER PIECE OF EQUIPMENT, ANOTHER DIG SITE, DRILLING, OR, AS A LAST RESORT, **BLASTING**.

PAGE 21 LINE 25 OF DAY 15 KELLY ASKS LEAHY SPECIFICALLY WHAT TRENKLER SAID THAT SURPRISED LEAHY ABOUT TRENKLER'S KNOWLEDGE OF EXPLOSIVES. LEAHY MENTIONS THAT AL MENTIONS **SHUNT, LEG WIRES** AND THAT **DYNAMITE** CAN EXPLODE OTHER **DYNAMITE** THROUGH HEAT, WHICH MEANS A DETONATION, AND THAT IT WAS HIS OPINION THAT A LAY PERSON WOULD'T HAVE THAT KNOWLEDGE.

THEN LEAHY GOES ON TO SAY THAT HE DOES NOT KNOW ABOUT MICROWAVE TECHNOLOGY THEN SAYS IT IS VERY DANGEROUS WHEN YOU ARE DEALING WITH EXPLOSIVES IF THER'S ANY MICROWAVE OR GROUND RADIATION, SO YOU AVOID IT.

PAGE 16 LINE 10 DAY 15 GERTNER ASKS LEAHY HOW TRENKLER CAME TO KNOW SUCH THINGS (**BLASTING CAPS, SHUNT, ELECTRICAL WIRES** AS AN ANTENNA).

PAGE 16 LINE 13 LEAHY SAID THAT "WE" HAD A FAIRLY LENGTHLY CONVERSATION ABOUT EXPLOSIVES, AND I WAS SURPRISED HE KNEW WHAT A **SHUNT** WAS. I WAS SURPRISED HE KNEW ABOUT **LEG WIRES** AND **BLASTING CAPS**. I WAS SURPRISEED THAT HE KNEW [THAT] **DYNAMITE** OR A HIGH EXPLOSIVE PLACED UNDER **DYNAMITE** WOULD **SYMATHEETICALLY DETONATE**.

LEAHY SAYS THAT IT DEPENDS ON HOW CLOSE **DYNAMITE** IS PLACED NEXT TO OTHER **DYNAMITE** IT IT WILL CAUSE IT TO EXPLODE

PAGE 17 LINE 9 GERTNER ASKS LEAHY "AND THE COMMENT THAT TWO ELECTRICAL WIRES CAN ACT AS AN ANTENNA IS REALLY NOTHING MORE THAN THE SAME THING AS THE SIGNS WHEN YOU PASS A **BLASTING AREA**, DON'T TURN ON YOUR RADIO; IS THAT RIGHT?" TO WHICH LEAHY ANSWERS HE DOESN'T THINK SO.

*** AT THIS POINT LEAHY SHOULD BE ASKED WHAT THEN ARE THE SIGNS POSTED FOR, ACTUALLY THE SIGNS READ "BLASTING AREA, TURN OFF ALL TWO WAY RADIOS" HE WILL HAVE TO SAY BECAUSE OF THE POSSIBILITY OF STRAY RF OR RADIO FREQUENCY SIGNALS POSSIBLY **COUPLING** WITH THE LONG LEADS BETWEEN THE **DYNAMITE** AND THE PLUNGER OR THE SWITCH THAT POWERS THE **BLASTING CAPS**. AGAIN, IN THE TWO WAY RADIO BUSINESS AND SELLING TO CONSRTRUCTION COMPANIES, A RESPONSIBLE PERSON WOULD HAVE TO KNOW THE EFFECTS RF TRANSMISSIONS HAVE ON **BLASTING SITES**.

*** WE HAVE GONE OVER THE "**SHUNT**" ASPECT BUT HERE IS ANOTHER EXAMPLE ANYWAY.

* IN ELECTRONICS THERE IS A DEVICE CALLED A CAPACITOR, CERTAIN ONES THAT WILL PICK UP A CONSIDERABLE AMOUNT OF STRAY ELECTRICAL ENERGY. BECAUSE OF THIS, THE CAPACITOR WOULD BE SHIPPED WITH A **SHUNT** ACROSS IT'S TERMINALS TO ABSORB ANY EXCESS ENERGY.

* ANOTHER EXAMPLE WOULD BE IN THE CONSTRUCTION OF A VOLT-OHM METER AND OR A AMMETER (AMP METER), A **SHUNT** RESISTOR WOULD BE PUT IN PARALLEL WITH A METER TO "**SHUNT**" THE EXCESS VOLTAGE OR CURRENT AWAY FROM THE METER, OTHERWISE THE METER WOULD BE DAMAGED BY THE EXCESS VOLTAGE OR CURRENT.

* THIS IS THE SAME EFFECT THAT A **SHUNT** ON A BLASTING CAP WOULD BE USED FOR, TO ABSORB ANY EXCESS CURRENT SO THAT THE

BLASTING CAP WOULD NOT GET DAMAGED (OR DETONATE)

* AS FOR "**LEG WIRES**", I NEVER MENTIONED THE WORDS ON THAT FAMOUS JAN 31 92 DAY. LEAHY BROUGHT UP THE QUESTION BY ASKING ME IF I THOUGHT THAT LONG WIRES COULD ACT AS AN ANTENNA TO WHICH I ANSWERED YES AND I EVEN DEFINED THIS EFFECT AS **COUPLING**-A COMMON TERM USED IN THE COMMUNICATION ENGINEERING FIELD.

*** **DYNAMITE** THROUGH HEAT OR DETONATION CAUSING OTHER DYNAMITE TO EXPLODE IS NOTHING MORE THAN PHYSICS 101 OR THE SAME AS THROWING A MATCH IN A BAG OF FIREWORKS, ALMOST ALL OF THE FIREWORKS WILL EXPLODE BECAUSE OF THE HEAT GENERATED BY THE SURROUNDING FIREWORKS WILL CAUSE THE REST OF THEM TO IGNITE.

*** **SYMPATHETIC DETONATION** WAS NEVER MENTIONED ON JAN 31 92. LEAHY SIMPLY ASKED WHAT I THOUGHT WOULD HAPPEN IF DYNAMITE WAS SET OFF NEXT TO OTHER DYNAMITE TO WHICH I ANSWERED THAT PHYSICS WAS PHYSICS, I WOULD ASSUME IT WOULD CAUSE THE OTHER DYNAMITE TO EXPLODE. AGAIN COMPARE TO FOURTH OF JULY FIREWORKS.

*** LEAHY NAILS IT RIGHT ON THE HEAD WHEN HE COMMENTS ABOUT "**GROUND WAVES**" CAUSING **BLASTING CAPS** OR THE WIRES LEADING TO THEM TO ACT AS AN ANTENNA TO CAUSE THEM TO EXPLODE. THIS IS ONE OF THE FIRST CONCERNS THAT A BLASTING COMPANY OR A CONSTRUCTION COMPANY USING **DYNAMITTE** OR STORING LARGE AMOUNTS OF FUEL WOULD HAVE WHEN PURCHASING TWO WAY RADIOS AND ALSO, AS SEEN IN THE RED MOTOROLA P200 HANDBOOK, IS ADDRESSED BY MOTOROLA I.E., SOMEONE IN THE TWO WAY RADIO BUSINESS NOT ONLY KNOWS OF THIS CONCERN, BUT ALSO KNOWS OF THE EFFECT R.F. TRANSMISSIONS HAS ON A LENGTH OF WIRE. THIS EFFECT, IN RADIO LANGUAGE, CALLED **COUPLING**, AND IS A COMMON PROBLEM WHEN ENGINEERING TWO WAY RADIO SYSTEMS.

ALSO VERY INTERESTING IS THAT A **GROUND WAVE** IS THE DEFINITION OF AN AMPLITUDE MODULATION (AM) SIGNAL AND THESE ARE PART OF THE BASIC TEACHINGS IN ELECTROMAGNETIC THEORY, SOMETHING THAT ANYONE IN THE COMMUNICATIONS INDUSTRY WOULD KNOW ABOUT.

ALSO IN THE DESIGNING OF A TRANSMISSION TOWER THERE IS CONSIDERABLE DESIGN CONSIDERATIONS GIVE TO THE GROUNDING OF THE TOWER TO PROVIDE THE MOST EFFECTIVE "**GROUND WAVE**".

ALSO, IN THE COMMUNICATIONS FIELD, WHAT THE HELL IS AN **ANTENNA** ANYWAY BUT A LONG PIECE OF WIRE, ANY WIRE WILL ACT AS AN **ANTENNA** IF IT IS NOT GROUNDED BY A SHIELD OR A **SHUNT** OF SOME KIND. THIS CAN ALSO BE APPLIED TO THE AUTOMOTIVE CAR STEREO FIELD IN THAT CONSIDERATION HAS TO BE GIVEN IN PROPERLY ISOLATING WIRES BETWEEN A RECEIVER, TAPE DECK, CD PLAYER, AMPLIFIER AND SPEAKERS IN ORDER NOT TO PICK UP STRAY RF AND ALTERNATOR SIGNALS THAT WILL "**COUPLE**" WITH THE LENGTH OF WIRES USED TO INTERCONNECT THESE DIFFERENT COMPONENTS,

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THESE PROBLEMS REVEAL THEMSELVES AS STATIC AND OR WHINING SOUNDS THAT CAN BE HEARD ON IMPROPERLY GROUNDED OR SHIELDED SYSTEMS.

ALSO AS DISCUSSED, BEING IN THE CONSTRUCTION BUSINESS, ONE MUST ADHERE TO THE OSHA RULES AND REGULATIONS REGARDING COMMON PRACTICES AROUND HEAVY EQUIPMENT AND CONSTRUCTION SITES. SINCE I DEAL WITH A WIDE SPECTRUM OF CLIENTS I HAVE TO KNOW AN EQUALLY GREAT AMOUNT OF POSSIBLE SITUATIONS THAT COULD BE A DANGER TO EITHER MY EMPLOYEES OR THAT OF OTHERS THAT MAY BE EFFECTED BY WHATEVER IT IS THAT I MAY BE DOING AT A PARTICULAR SITE.

AS NOTED ABOVE I DEAL OR HAVE DEALT WITH CONSTRUCTION SITES SUCH AS THE THIRD HARBOR TUNNEL PROJECT WHERE THE POSSIBILITY OF THE USE OF **EXPLOSIVES** IS A CONSIDERATION WHEN USING TWO WAY RADIOS.

ALSO FOR THE MWRA ON DEER ISLAND, THOUGHT HAD TO BE GIVEN TO THE USE OF RADIOS AROUND POSSIBLE **DEMOLITION** SITES.

ALSO AS MENTIONED MOST OF THE EXCAVATION COMPANIES THAT I USE ARE FAMILIAR WITH THE USE OF **EXPLOSIVES** AND WOULD BASICALLY GO OVER THE DETAILS OF WHAT WOULD BE ENTAILED IN THE USE OF **DYNAMITE** (MOST OF THESE GUYS LIKE TO BRAG ABOUT THE DIFFERENT JOBS THEY HAVE DONE)

PAGE 176-180 LINE 20 WASKOM, AMONG OTHER THINGS, DESCRIBES THE FIRING CIRCUIT AS CONTAINING A TOGGLE SWITCH, A SLIDE SWITCH, SMALL CIRCUIT BOARD, A LIGHT BULB, A MAIN CHARGE, M 21 HOFFMAN.

** NOWHERE IN THE 86 REPORT OR IN MY STATEMENTS IS THERE ANY MENTION OF A SLIDE SWITCH, WASKOM IS JUST SPECULATING ON THIS POINT - IF IT WAS NOT MENTIONED IT MAY NOT HAVE EXISTED.

** NOWHERE IN THE LEO VOIGHT REPORT IS THERE MENTION OF ANY REMAINS OF A LIGHT BULB IN THE CIRCUIT. AS A MATTER OF FACT, A STATEMENT BY ME TO THE QUINCY POLICE WAS THAT A LIGHT BULB WAS USED FOR TESTING ONLY.
IN THE 91 DEVICE, THERE WAS NO LIGHT BULB FOUND IN THE REMAINS OR AT ANY OF THE SEARCH LOCATIONS.

PAGE 182 LINE 6 WASKOM DESCRIBES HOW HE DECIDED ON THE PLACEMENT OF THE TOGGLE SWITCH IN THE MOCK UP.

** WASKOM CAN DESCRIBE ALL HE WANTS ABOUT THE PLACEMENT OF THE TOGGLE SWITCH, BUT HOW CAN HE, IT IS JUST A GUESS, HOW DOES HE KNOW HOW MUCH AL TRENKLER KNOWS ABOUT BOMBS OR ELECTRICAL CIRCUITS, AGAIN HE IS JUST GUESSING.

PAGE 184 LINE 22 WASKOM SAYS THAT "SOLDERING, TWISTING, SOLDERING AND TAPING OF [A] CONNECTION IS A VERY IMPORTANT POINT.

** SOLDERING IN ITSELF IS NOT A UNIQUE WAY OF CONNECTING WIRES TOGETHER, ESPECIALLY WHERE A RELIABLE CONNECTION IS NEEDED.

** AS FOR THE USE OF TAPE, WHAT OTHER LOGICAL WAY WOULD THERE BE TO INSULATE TWO OR MORE WIRE ENDS FROM TOUCHING EACH OTHER. IF AN EXTENSION CORD HAS BEEN WORN TO THE COPPER DO YOU NOT USE TAPE TO WRAP AROUND IT TO INSULATE IT FROM SHOCKING YOU?

** IF YOU HAVE TWO WIRE ENDS THAT YOU ARE TRYING TO CONNECT TOGETHER, THE MOST LOGICAL WAY TO CONNECT THEM WOULD BE TO TWIST THEM TOGETHER.

PAGE 185 LINE 24 WASKOM SAYS THE COMPONENTRY AND WIRING IN THE FUSING CIRCUIT OF THE 86 DEVICE IS SIGNIFICANT FOR SIGNATURE PURPOSES.

** NEITHER MY STATEMENTS NOR THOSE OF THE QPD OR LEO VOIGHT STATE EXACTLY HOW THE 86 DEVICE WAS CONNECTED TOGETHER, WHETHER THE WIRES WERE TWISTED TOGETHER OR NOT. IT IS MERELY REPORTED THAT THE WIRES WERE SOLDERED AND TAPED TOGETHER.

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SHOULD THIS NOT BE DISCOUNTED SINCE THIS INFORMATION WAS GLEANED FROM THE DENNY KLEIN REPORT, AS TO THE "TWISTING" ASPECT?

PAGE 186 LINE 2 WASKOM SAYS HE CONSIDERS THE LAYOUT OF THE DEVICE IN RELATIONSHIP TO THE ENTIRE DEVICE TO BE VERY IMPORTANT.

** IT WOULD SEEM TO BE THAT HE ANSWERS THE VERY QUESTION ON SIGNATURE. IF HE CANNOT BE SURE OF THE 86 DEVICE LAYOUT AND HAS TO MAKE ASSUMPTIONS OF ITS LAYOUT, HOW CAN THIS BE AN ACCURATE COMPARISON, HE WORKS FOR THE GOVERNMENT AND CANNOT POSSIBLY BE AN IMPARTIAL WITNESS AND WOULD THEREFORE NATURALLY FIND THAT THE 86 LAYOUT AND THE 91 LAYOUT WOULD BE SIMILAR. GERTNER AT PAGE 173 LINE 21 MAKES THE STATEMENT THAT THE 86 DATA IS EXTRAORDINARILY SKETCHY HOBBLLED BY THE EXTENT OF MR. TRENKLER'S STATEMENTS AND FURTHER HOBBLLED BY THE FACT THAT THE PHYSICAL EVIDENCE NO LONGER EXISTS AND THE MAN IN CHARGE OF IT HAS DIED.

PAGE 186-187 LINE 18 THE JUDGE ASKS WASKOM TO REVIEW THE SIGNATURE QUALITIES. HE LISTS DUCT TAPE, SOLDERING, THE TOGGLE SWITCH, REMOTE CONTROL SYSTEM AND THE LIGHT BULB. HE SAYS THAT THE LIGHT BULB WAS NOT RECOVERED IN THE 91 BOMB. THE JUDGE SAYS THAT THE USE OF THE LIGHT BULB IS QUESTIONABLE, BUT AS A SIGNATURE, SINCE WE DON'T HAVE IT, WE DON'T KNOW IF IT WAS IN THE 91.

** DUCT TAPE - ONE OF THE MOST COMMON HOME OR OFFICE FIX ALLS. INTERESTING IS THAT HE DOES NOT SEEM TO MENTION THE FACT THAT THERE WERE TWO KINDS OF ELECTRICAL TAPE OR THE WHITE PLASTIC TAPE. WHEN SEARCHING MY LOCATIONS THERE WAS PLENTY OF ELECTRICAL TAPE, WHAT WAS THE REASON FOR THE USE OF THE WHITE PLASTIC TAPE IF 1) NONE OF IT WAS FOUND AT ANY OF MY LOCATIONS 2) I HAD PLENTY OF ELECTRICAL TAPE TO HAVE FINISHED THE JOB. ALSO IT WOULD SEEM TO ME THAT THE FACT THAT THERE WERE TWO DIFFERENT TYPES OF ELECTRICAL TAPE, THAT THE BOMB MAKER WAS USING THE LAST OF HIS ELECTRICAL TAPE SUPPLY, RAN OUT AND HAD TO USE THE WHITE TAPE TO FINISH THE JOB.

** SOLDERING - A VERY POPULAR WAY OF CONNECTING TWO WIRES TOGETHER AND NOT A STRANGER TO THE AUTOMOTIVE, PLUMBING, ELECTRICAL, ELECTRONIC, COMMUNICATION, COMPUTER, HOBBY, AND HOME USE. PLUS THE FACT THAT ALL THE WIRES ON THE 86 DEVICE THAT WERE FOUND WERE SAID TO HAVE SOLDER ON THEM. IN THE 91 DEVICE THE ONLY WIRES THAT WERE SOLDERED WERE CONNECTIONS TO ONE OF THE SWITCH CONTACTS AND TWO WIRES THAT WERE JOINED TOGETHER AND IT DOES NOT APPEAR THAT THEY WERE TWISTED TOGETHER. THE ONLY WIRES THAT WERE TWISTED TOGETHER WERE NOT SOLDERED BUT TAPED. THE LARGE PHOTO OF THE RED AND BLACK WIRE THAT IS SOLDERED DOES NOT APPEAR TO BE TWISTED. I AM SENDING YOU TWO EXAMPLES OF SOLDERING 1) WITHOUT TWISTING THE WIRES TOGETHER, 2) WITH TWISTING. IT WILL BE VERY CLEAR FROM THESE TWO EXAMPLES WHAT A GOOD SOLDER JOB LOOKS LIKE.

** REMOTE CONTROL SYSTEM - THIS, ON ITS OWN WOULD NOT BE UNCOMMON TO A REMOTE CONTROL DEVICE OF WHICH I BELIEVE THERE WERE 148.

** LIGHT BULB - AS ZOBEL STATED THIS IS QUESTIONABLE, SINCE WE DON'T HAVE IT WE DON'T KNOW IF IT WAS IN THE '91 [DEVICE]

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SHUNT REFERENCE(S)

WENTWORTH INSTITUTE BOOKS
OSHA HANDBOOK
FCC CFR 47
ANY DICTIONARY

COUPLING REFERENCES

FCC CFR 47
ANDREW CATALOG 35
WENTWORTH INSTITUTE BOOKS

GROUNDWAVE REFERENCES

FCC CFR 47

LEG WIRE REFERENCE

OSHA HANDBOOK

RADIO TRANSMISSION PRECAUTION NEAR BLASTING CAPS

OSHA HANDBOOK

WIRE USED AS AN ANTENNA

FCC CFR 47
ANDREW CATALOG 35

SOLDERING PRACTICE

WENTWORTH INSTITUTE BOOKS

DYNAMITE AND BLASTING REFERENCES

OSHA HANDBOOK