Episode 709, Story 3: N.E.A.R Device

Gwen: Our last story peers inside a black box that may shed light on some of the darkest days of the Cold War. The US atomic bombing of Hiroshima and Nagasaki in 1945 raised the stakes of modern warfare. Almost immediately after World War Two, America's former ally, the USSR, became her Cold War archenemy. The Soviet Union's surprise testing of its own atomic bomb in 1949 helped trigger a nuclear arms race, with each side pursuing ever more costly and deadly technologies. More than sixty years after the start of the Cold War, Wayne Gilbert, of Westminster, Colorado, has stumbled across a device that he thinks may have been intended to help Americans believe they could survive a soviet nuclear attack.

Wayne: The more I asked the more curious I became.

Gwen: Hi, you're Wayne?

Wayne: Hi, nice to meet you. Come in.

Gwen: Nice to meet you too. Thanks. It's a curious little device. N.E.A.R. National Emergency Alarm Repeater. So what did you think it was? It says "warning device" here?

Wayne: Well I'm not exactly certain. It does have the civil defense symbol on it.

Gwen: Wayne believes the triangle resembles the insignia he found in an old civil defense handbook. The 1951 booklet assures citizens that they could survive an atomic blast.

Wayne: I would presume that it had something to do with the Cold War. I'm not certain exactly what it was used for.

Gwen: Where did you find it?

Wayne: Well I found it at a ham fest actually.

Gwen: What's a ham fest? Is that about a ham radio?

Wayne: Uh, well yes. And we go to ham festival to get parts that we can use to repair broadcaster radios.

Gwen: So Wayne, tell me what you'd like for me to find out about this little black box.

Wayne: Well was this ever mass produced, and actually what was it for?

Gwen: Well those are intriguing questions. I may take some time and just look it over more myself. But I'm excited to do this story. I remember civil defense drills from when I was growing up, and buildings marked as fallout shelters. I don't recall seeing anything resembling this little device. Ever since the Soviet Union successfully tested its own atomic bomb in 1949, Americans had lived under the specter of nuclear war. In 1951, President Harry Truman created the Federal Civil Defense Administration – and launched a Public Education Preparedness Campaign. So I thought it'd be interesting to look at some of those films from the early 50's.

"It's a bomb, duck and cover."

Gwen: With the help of Madison Avenue and Hollywood, films like “Duck and Cover” suggested that with the right preparation, Americans could survive a nuclear attack. In the early 1960’s the Cold War debate over civil defense policies became far more intense. Following the Berlin Crisis of 1961, President Kennedy launched a vast program of marking public buildings as fallout shelters, but a growing number of academics and scientists protested that civil defense plans created a false sense of hope for the public, and signaled to our enemies that we were prepared to fight a nuclear war. There’s no mention of the “N.E.A.R” device in the old films. What was its message? The box is stamped “Essex Wire Corporation” and “patent pending.” Let’s see what I can find about the Essex Wire company. Well simply says that it was a communications company but doesn’t give any other information. These look like two prongs for an ordinary wall plug. But how would it have worked? Jon Althouse is a master electrician. I’m curious what he can figure out from the device’s circuitry. Ever seen anything like that?

Mr. Althouse: I cannot say I’ve ever seen anything like this before. Let’s see what’s inside.

Gwen: Ok.

Mr. Althouse: Oohh, now this is some old work. This appears to be a buzzer.

Gwen: Wayne may have picked up this box at a ham radio fest – but john says it was not designed to receive an ordinary radio signal. Only a special high frequency electric current could set it off.

Mr. Althouse: Somebody would have to initiate the signal for this to receive it. If I just short this little contact together, close that switch, it would make it run off normal power.

Gwen: Okay. I'm not sure this is something I really want to hear. But I can't but be a little curious.

Mr. Althouse: Let's plug it in.

Buzz, buzz!!

Gwen: Well it is loud, and this does get your attention.

Mr. Althouse: That does wake me up.

Gwen: Was this the noise Americans would hear in the event of a nuclear attack? I'm at the National Archives where I've located a large file on the N.E.A.R program. Here's a memo from the Federal Civil Defense Administration. The program was launched in 1956 during the Eisenhower administration. So it's about testing a new internal warning system that could alert Americans at home and at work in the event of enemy attack. One criterion was that the near box be relatively inexpensive - given that citizens would buy their own devices. Contracts were awarded to five manufacturers for 20,000 receivers each, or a total of 100,000 receivers. So, the Essex Wire was only one of five. The warning system test was developed by Midwest Research and the Office of Civil Defense, a contract over a million dollars. It looks like the Midwest Research Institute did field testing as well. Charlotte becomes civil defense focal point of the nation as final testing is completed. Charlotte is a small town in South Central Michigan. It was

selected as a near testing site in 1960. Local historian Jeri Bohms has found a N.E.A.R device in the archives that looks quite similar to ours.

Ms. Bohms: And this is it.

Gwen: N.E.A.R receiver model 2, and it was made by a division of General Motors. Jerri says this model “two” was tested in the town.

Ms. Bohms: I think they distributed about 1500, and I know that with that they gave out this booklet that kind of explains what the near device was and how it worked

Gwen: The booklet explains that if Russian bombers were approaching, the North American Air Defense Command, or NORAD, would send out an alert.

Ms. Bohms: I think we got our signal ultimately out of Colorado Springs and that went through the power companies that sent their power surge through the electric works to make the device go off.

Gwen: Do you know why Charlotte was chosen?

Ms. Bohms: I don’t know exactly, but from what I understand, they were looking at the time for something that represented typical small town America.

Gwen: What was the population of Charlotte at that time?

Ms. Bohms: I think it was about 8,000, so not real big.

Gwen: Well what happened the big day? How did they know how many went off? Jeri's arranged for me to meet Fred Weiting, whose high school senior class assisted with the test. Fred explains how, if the near buzzer went off, a homeowner released a pink weather balloon that had been tethered to the rooftop. Testers could then count how many alarms had performed correctly.

Mr. Wieting: When the alarm went off we were up in the top of the courthouse. They had spotters up there to see how many balloons went up.

Gwen: Not all the devices went off, nor were all the helium balloons sent skyward. Failure to launch some of the balloons might have been a result of the fun Fred says the high school students were having that day.

Mr. Wieting: It was helium so some people were using the helium to make their voice sound funny. And that kind of got a little carried away.

Gwen: What did you think would happen with the N.E.A.R system after the test was done?

Mr. Wieting: We kind of thought that that would catch hold and that maybe they would put 'em out. But after we did the test and everything, it just faded into history.

Gwen: The test was organized by the Midwest Research Institute. Linda Cook is now Vice President of Communications.

Ms. Cook: Well, it started for Midwest Research Institute in 1957.

Gwen: A year after the Civil Defense Administration green lit the N.E.A.R program, MRI received their orders. The mission was simple: come up with a better warning system.

Ms. Cook: The only way to notify people according to the records, were sirens and horns, whistles and voice commands, mainly that were outside. So they needed something that would be inside the homes where it would reach more people. And they decided to take the electrical route versus going through phone lines or radios because 96% of the population had electricity.

Gwen: Linda says that the while the test in Charlotte was the largest; there were smaller tests in dozens of towns across the United States. She says the device performed successfully, but there were other complications.

Ms. Cook: The problem was that the alarm would go off, but there were no instructions on what to do or what was exactly happening. This came out in some of the tests that they ran in different communities. And people would get in their cars and then it was a problem where they would jam the highways.

Gwen: She's not sure if that's why the program was shut down. But, after a full decade of Federal support for testing and development, the program was terminated.

Ms. Cook: We don't have the specific reasons why it was not implemented. The contract was completed.

Gwen: Marty Sherwin is a Pulitzer Prize winning author and an historian of the Cold War. So Marty here's this N.E.A.R device that I told you about.

Mr. Sherwin: Oh wow.

Gwen: Ever seen something like that?

Mr. Sherwin: Never have seen anything like it. Nuclear Emergency Alarm Repeater. Wow.

Gwen: This device seems to have been made in the 1962. Let's talk about the beginnings of an official American Civil Defense program. Marty explains how the approach to civil defense during the Cold War grew out of the European experiences in World War Two.

Mr. Sherwin: The American World War Two civil defense was absolutely critical and it worked. And it was natural once the Cold War got heated up that uh, civil defense would be part of the American response.

Gwen: What about this device. It's relatively simple technology, right?

Mr. Sherwin: I think one of the reasons it was attractive was that, "hey, we'll create a device. You plug it into your wall and it'll buzz and it'll cost ten bucks, max and…"

Gwen: While many civil defense planners had good intentions, the ever-more deadly consequences of a war fought with nuclear weapons were becoming apparent to the general public.

Mr. Sherwin: The kind of bomb that destroyed Hiroshima and Nagasaki was maximum 20 kilotons could have been 2 and a half times the size. But a hydrogen bomb had absolutely no limit of size. I mean, that's important to understand. One weapon could take out a whole city like New York. A 20 megaton bomb.

Gwen: At some level it didn't make sense for the government to be suggesting to Americans that they could do something to protect themselves from these nuclear weapons.

Mr. Sherwin: There's an interesting contradiction in the whole Kennedy civil defense policy.

This country therefore continues to require the best defense in the world.

Mr. Sherwin: He is building up civil defense, but the recognition that these weapons are so powerful that civil defense is useless it becomes more obvious to the American public.

Gwen: Marty says the nuclear tensions that had accompanied the Berlin Crisis had deepened the following year. The likelihood of both sides unleashing their nuclear weapons during the October 1962 Cuban Missile Crisis terrified civilians and policy makers alike. By the mid 1960's, civil defense plans to survive a nuclear war were largely eclipsed by a new doctrine known as Nuclear Deterrence or MAD: Mutually Assured Destruction.

Mr. Sherwin: The idea behind Mutual Assured Destruction is that if there is going to be nuclear war that will lead to Mutual Assured Destruction, then no rational person would engage in nuclear war. So deterrence became the foundation of American thinking.

Gwen: That wasn't the only reason the N.E.A.R device ended up as spare parts at a ham radio fest. Marty shows me the transcript of a Congressional hearing that helps unlock the mystery of Wayne's little black box…. Well Wayne, devices like yours were part of a Federal civil defense program. They eventually produced 100,000 warning devices.

Mr. Gilbert: That's amazing. A 100,000 of 'em?

Gwen: A 100,000 of them.

Mr. Gilbert: I thought I had one of one!

Gwen: What's intriguing, you had asked if it had ever been implemented. There were testing sites. One of them was a small town called Charlotte, Michigan, but these were efforts to see what the warning could do. Now what's obviously missing is, "then what?" I explain to Wayne how the 1964 Congressional hearing had foreshadowed the end of the N.E.A.R program.

Mr. Sherwin: "It seems we should not spend more money in developing power line systems such as near because technological developments indicate that there are other warning systems possible." So that took care of N.E.A.R. One of the reasons that it was killed is that is all it was, was a noise. You know radio was better.

Mr. Gilbert: Very interesting how that all plays together.

Gwen: So the Government decided that they could shift to using the existing radio system and the Emergency Broadcasting System, the EBS, went into place in 1963. The N.E.A.R program was finally terminated in 1967.

Mr. Gilbert: I was proud of it before, but I'm a little more proud of it now, I know a little more about.

"This is a test, for the next 60 seconds this station will conduct a test of the Emergency Broadcast System."

Gwen: It was never used to notify civilians of a nuclear emergency, but from 1963 to 1997 the Emergency Broadcast System was used regionally thousands of times, to alert Americans to threats of floods, tornadoes, and earthquakes. The mounting public anxiety about nuclear weapons, which had been such a key feature of the civil defense debate of the early 1960's, helped carry Soviet and American leaders to the negotiation table. The first Strategic Arms Limitation treaty, known as Salt One, was signed in 1972 in Moscow by US President Richard Nixon and Soviet leader Leonid Breshnev.