

16	<p>SOME OTHER THINGS ABOUT TYPE B PACKAGES YOU SHOULD KNOW...</p> <p>TYPE B PACKAGES MUST INCORPORATE A FEATURE THAT SHOWS THE PACKAGE HAS NOT BEEN OPENED BY UNAUTHORIZED PERSONS.</p> <p>MUST BE PERMANENTLY MARKED WITH ITS MODEL NUMBER, SERIAL NUMBER, GROSS WEIGHT, AND PACKAGE IDENTIFICATION NUMBER.</p> <p>MUST BE PERMANENTLY MARKED "TYPE B".</p>
17	<p>THIS CONCLUDES MODULE 6. IN MODULE 7, WE WILL SHOW YOU SOME OF THE RADIOLOGICAL MATERIAL YOU MAY ENCOUNTER AS AN EMERGENCY RESPONDER.</p>

13	<p>TYPE B CONTAINERS MUST UNDERGO TESTING FAR MORE DEMANDING THAN TYPE A.</p> <p>TYPE B SHIPPING CONTAINERS MUST WITHSTAND ALL OF THE TYPE A TESTS, PLUS THE FOLLOWING TYPE B TESTS:</p> <p>A DROP OF 30 FEET ONTO A HARD, UNYIELDING SURFACE, STRIKING THE WEAKEST POINT OF THE CONTAINER</p> <p>BEING DROPPED ONTO A STEEL ROD 6 INCHES IN DIAMETER AND 8 INCHES LONG FROM A HEIGHT OF 40 INCHES.</p> <p>BEING EXPOSED TO A FLAMMABLE LIQUID FUELED POOL FIRE WITH A TEMPERATURE OF 1, 475 DEGREES FOR AT LEAST 30 MINUTES.</p> <p>SUBMERGED IN A POOL OF WATER NOT LESS THAN FIFTY FEET DEEP FOR AT LEAST 8 HOURS.</p> <p>AS WITH THE TYPE A PACKAGES, THE TYPE B MUST PASS THESE TESTS WITHOUT ANY LEAKAGE.</p>
14	<p>IN SOME CASES, THE CONTAINERS ARE TESTED UNDER CONDITIONS THAT ARE FAR BEYOND WHAT MAY BE EXPECTED IN REAL WORLD CONDITIONS, AS SHOWN IN THESE PICTURES.</p> <p>THIS TYPE B CONTAINER WAS CRASHED INTO A 690 TONE CONCRETE BARRIER AT 60 MILE PER HOUR. WHILE THE YELLOW IMPACT CUSHION MATERIAL AND THE CAB OF THE TRUCK WERE BOTH DESTROYED, THE CONTAINER DID NOT FAIL.</p>
15	<p>IN ANOTHER TEST, A DIFFERENT TYPE OF CONTAINER IS CRASHED INTO THE SAME 690 TON WALL WHILE CARRIED ON A TRAIN CAR MOVING AT 81 MILES PER HOUR. AS WITH THE TRUCK TEST, THE CUSHIONING FEATURES OF THE PACKAGE COUPLED WITH THE STRENGTH OF CONSTRUCTION KEPT THE CONTENTS SAFE.</p>

10	<p>IT IS IMPORTANT FOR YOU TO UNDERSTAND...</p> <p>ALL TYPE A PACKAGES WILL HAVE "TYPE A" PRINTED ON THE PACKAGE, AND WILL HAVE A RADIOACTIVE LABEL APPLIED.</p> <p>TYPE A CONTAINERS ARE DESIGNED TO WITHSTAND ORDINARY SHIPPING AND HANDLING CONDITIONS.</p> <p>MOST IMPORTANTLY, TYPE A PACKAGES WILL NEVER CONTAIN LIFE ENDANGERING QUANTITIES OF RADIOACTIVE MATERIAL.</p>
11	<p>FOR HIGHER LEVELS OF RADIOLOGICAL MATERIAL, THE TYPE B CONTAINER MUST BE USED.</p> <p>TYPE B PACKAGES ARE TIGHTER, STRONGER, AND HEAVIER THAN TYPE A.</p> <p>AND AS SHOWN IN THESE PICTURES, TYPE B CONTAINERS ALSO COME IN A VARIETY OF SIZES AND SHAPES.</p>
12	<p>THESE ARE ALSO TYPE B PACKAGES.</p> <p>YOU MAY SEEN THE ONES IN THE RIGHT HAND PICTURE ON OUR HIGHWAYS. THESE ARE CALLED TRUPAC SHIPPING CASKS, AND ARE USED TO TRANSPORT CONTAMINATED MATERIALS TO A STORAGE FACILITY IN NEW MEXICO.</p>

7	<p>THIS IS A TYPICAL TYPE A PACKAGE YOU MIGHT ENCOUNTER IN A TRANSPORTATION ACCIDENT. IT RESEMBLES AN ORDINARY CARDBOARD BOX FROM THE OUTSIDE.</p> <p>INSIDE, YOU CAN SEE HOW THE PACKAGING IS ARRANGED. THERE IS A DIVIDER TO HOLD STYROFOAM POPCORN AROUND THE CENTRAL CHAMBER. INSIDE THE CENTER IS THE RADIOACTIVE MATERIAL WHICH IS INSIDE A LEAD CONTAINER CALLED A PIG. THIS PIG IS, IN TURN, PLACED INSIDE A SEALED CAN.</p> <p>LOOKING CLOSER AT THE BOX, THERE ARE SOME ADDITIONAL REQUIRED LABELS. FIRST IS THE PRINTED SPECIFICATION THAT THIS IS A TYPE A PACKAGE.</p> <p>SECOND ARE THE TWO ARROWS POINTING UP. THIS NOT ONLY SHOWS THE CORRECT ORIENTATION FOR THE PACKAGE, BUT INDICATES THAT THE CONTENTS ARE A LIQUID.</p> <p>FINALLY, THE DESCRIPTION OF THE CONTENTS, INCLUDING THE U N NUMBER ARE PRINTED ON THE OUTSIDE.</p> <p>AS YOU CAN SEE, EVEN THIS SEEMINGLY SIMPLE CARDBOARD BOX IS ACTUALLY A WELL DESIGNED SYSTEM WHICH PROVIDES A LOT OF PROTECTION FOR THE CONTENTS.</p>
8	<p>SHOWN HERE IS A COMPLETELY DIFFERENT TYPE A PACKAGE. THIS LOOKS LIKE A CARRYING CASE, WITH A YELLOW 2 LABEL.</p> <p>AS WITH THE BOX, THIS CASE ALSO HAS THE TYPE A DESIGNATION PRINTED ON IT, AND HAS THE ORIENTATION ARROWS.</p> <p>INSIDE, THIS CASE HAS SEVERAL LEAD CONTAINERS PROTECTED BY CUSHIONING.</p>
9	<p>THE MOST COMMON TYPE A MATERIALS ARE RADIOPHARMACEUTICALS USED IN MEDICAL TESTING AND TREATMENT.</p> <p>SOME RADIOPHARMACEUTICALS INCLUDE RADIOIODINE, IRIDIUM, TECHNETIUM, AND GALLIUM.</p>

4	THE NEXT LEVEL IS DESIGNATED AS TYPE A PACKAGING. MATERIALS SHIPPED IN TYPE A PACKAGING ARE SMALL AMOUNTS OF RADIOACTIVE MATERIAL. TYPE A PACKAGES MUST MEET FEDERAL REQUIREMENTS.
5	<p>TYPE A PACKAGES MUST UNDERGO A SERIES OF TESTS BEFORE BEING USED TO TRANSPORT RADIOLOGICAL MATERIAL. THESE TESTS INCLUDE:</p> <p>BEING SUBJECTED TO A WATER SPRAY THAT SIMULATES A 2 INCH PER HOUR RAINFALL FOR AT LEAST ONE HOUR</p> <p>BEING DROPPED ONTO A HARD, FLAT SURFACE</p> <p>HAVING A WEIGHT AT LEAST 5 TIMES THE WEIGHT OF THE PACKAGE STACKED ON TOP OF IT FOR AT LEAST 24 HOURS,</p> <p>AND HAVING A ONE AND A QUARTER INCH, 13 POUND STEEL BAR DROPPED ONTO IT FROM A DISTANCE OF 3.3 FEET ABOVE THE PACKAGE.</p> <p>ONLY IF THE PACKAGE PASSES ALL OF THESE TESTS WITHOUT ALLOWING THE CONTENTS TO BE DAMAGED IS IT APPROVED FOR USE IN SHIPPING.</p>
6	THIS ARE EXAMPLES OF TYPE A PACKAGING. AS YOU CAN SEE, THE PACKAGES ARE QUITE DIFFERENT IN SIZE, SHAPE, CONSTRUCTION, AND USE.

FOSTER ON LINE  
NARRATION SCRIPT

MODULE: 6

SLIDE	NARRATION
1	<p>IN MODULE SIX, YOU WILL BEGIN TO UNDERSTAND THE ROLE PACKAGING PLAYS IN PROTECTING YOU AND THE PUBLIC FROM THE HAZARDS OF RADIOLOGICAL MATERIAL.</p>
2	<p>AS A RESPONDER, YOU SHOULD BE AWARE THAT RAM COMES IN PACKAGES OF ALL SIZES AND SHAPES. YOU WILL SEE SOME EXAMPLES OF THIS SHORTLY.</p> <p>THESE PACKAGES CAN BE ANY WEIGHT, BUT GENERALLY, RAM PACKAGING IS MUCH HEAVIER THAN THAT USED FOR OTHER MATERIALS.</p> <p>RAM IS ALSO SHIPPED VIA ALL MODES OF TRANSPORT. MOST COMMONLY IT IS SHIPPED BY TRUCK, BUT IT IS ALSO SHIPPED BY AIR, WATER, AND RAIL.</p> <p>FINALLY, AND IMPORTANTLY, UNLIKE OTHER PACKAGING, ANY RADIOACTIVE MATERIAL THAT COULD POTENTIALLY HARM YOU OR THE ENVIRONMENT MUST BE SHIPPED IN PACKAGING THAT IS CONSTRUCTED TO MEET STRINGENT FEDERAL STANDARDS.</p>
3	<p>THE LEAST HAZARDOUS CLASS OF PACKAGING IS FOR WHAT IS CALLED EXCEPTED MATERIAL. THESE ARE MATERIALS THAT HAVE VERY LIMITED AMOUNTS OF RADIOACTIVE MATERIAL, AND THE MATERIAL IS INCORPORATED INTO A SPECIFIC ITEM. PACKAGING FOR THESE MATERIALS IS NOT SUBJECT TO ANY SPECIAL FEDERAL DESIGN REQUIREMENTS.</p> <p>THE EXCEPTED PACKAGE IS NOT REQUIRED TO HAVE A RADIOACTIVE LABEL.</p> <p>THESE MATERIALS ARE SHIPPED VIA COMMON CARRIER, AND ARE NOT CLASSIFIED AS HAZARDOUS CARGO.</p> <p>SOME EXAMPLES OF EXCEPTED MATERIALS INCLUDE SMOKE DETECTORS, SELF-ILLUMINATED EXIT SIGNS, AND TRITIUM GUN SIGHTS.</p>