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NUCLEAR WARHEAD & ROCKET MOTOR TRANSPORTATION: UNSEEN DANGERS LURK

Compiled by Bob Aldridge

Trains and trucks criss-cross our nation daily with cargos ranging from small missile motors through monstrous strategic rockets and space launch boosters, to the actual nuclear warheads. Yet the public is never warned. If a main highway or railroad track passes through your community, there is high likelihood that this dangerous cargo also goes by. We have been lucky that previous accidents were not worse, but it is only a matter of time until we reach what statisticians call "Probability One," the moment when our chances run out and something really serious occurs. The Drell Panel recommended: "In the interest of safety against plutonium dispersal there should be a consistent policy governing the very large number of weapons movements whose numbers have typically, in recent years, added up to more than 1,000 vehicle trips and one-million miles per year."¹

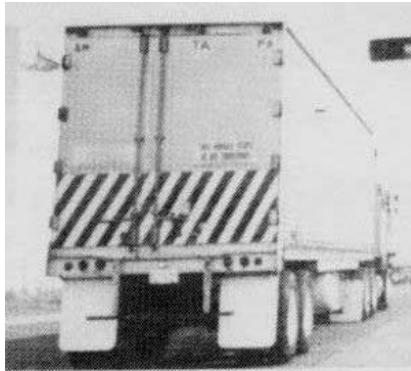
A. ARMORED NUCLEAR TRUCKS

Every day a fleet of unmarked, armored, and heavily armed articulated trucks (tractor and semi-trailer) owned by the Department of Energy (DOE) travel the nation's highways. They log over 3.5 million miles per year and are accompanied by one or more escort vehicles. Nukewatch USA has advertised the trucks' appearances and characteristics, as well as that of escort vehicles.

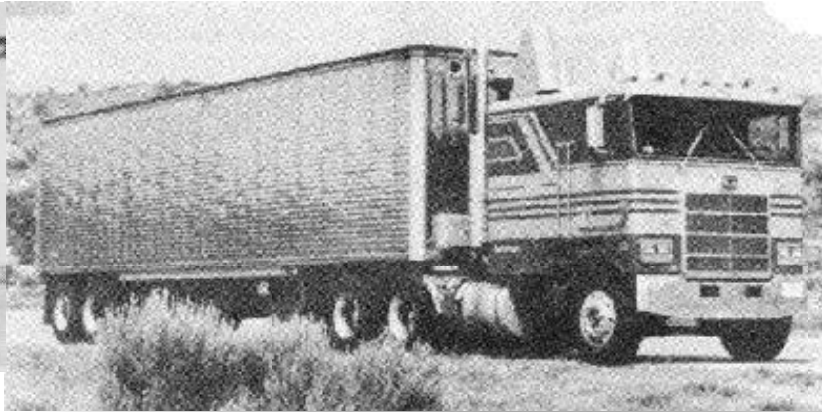
From 1972 until the mid-1980s, nuclear warheads for Trident missiles were transported by a special railroad train, called the Nuclear Train. But because protesters made these shipments too visible to the communities the train passed through, it disappeared from the rails in 1986. Then on 18 July 1991, Metanoia Community observed for the first time a convoy of three 18-wheeler trucks escorted by five security vehicles enter Sub Base Kings Bay in Georgia. It is presumed they were carrying thirty-six Mark-5/W-88 warheads.

The DOE tractors which transport nuclear warheads and components are made by Marmon Motor Company of Dallas, Texas, but have no special markings and carry no warning signs of explosive or radioactive cargo. The heavily-armed personnel wear no distinctive uniforms or badges. The trucks do bear government license plates beginning with "E", and usually have stripes painted

¹Drell Report, p. 30.



Rear View of Safe-secure Trailer
NUKEWATCH PHOTO by Camy Condon



Courier Car
Photo by Ann Sorensen



DOE Trucks (Tractors and Trailer)
Photos obtained through Freedom Of Information Act request by Glen Milner

on the cab. There is a horizontal radio antenna across the top of the cab. Perhaps the "Marmon" manufacturing emblem will appear on the side of the tractor. The cab-over-engine tractor has been in service since the 1970s. Newer tractors, which have been in service since the late 1980s, are long-snouted rather than cab-over-engine design.

The "safe-secure trailers" have unpainted steel sides. The letters "AM" are painted on the right front. A metal box protrudes below the trailer floor. Diagonal black and white stripes on the rear go about a third the way up the back of the trailer, which contains intricate alarms and security devices to prevent unauthorized entry.

Two or more courier vehicles escort the trucks. Sometimes they travel close and sometimes at a distance. They are also plain and are usually Chevrolet Suburbans or similar. A radio antenna is on the left rear of the vehicle and a white box is at the base of the antenna. Both truck and courier personnel are heavily armed and have shoot-to-kill authorization.

Following a November 1996 accident in which a truck loaded with nuclear warheads skidded off a Nebraska road, no one in government knew for half a day the degree of danger. It turns out that radiation monitors had been removed because the drivers were complaining about being exposed to radiation dangers from their cargoes. Robert Alvarez, a former DOE advisor and before that a Senate aide helping to oversee the DOE, called the nuclear courier problem "emblematic of the department's inept and often arrogant management culture."²

²Alvarez, p. 26. Also cited in Broad.

B. MISSILE-MOTOR BOXCARS

When a special freight train destined for Sub-Base Bangor derailed near Puget Sound in April 1986, Navy officials promptly disclaimed the presence of explosive material. Documents later obtained through the Freedom Of Information Act revealed that over 50 tons of Class-A explosives in the form of Trident-1 (C-4) rocket motors were on board. Class-A tops the danger list.

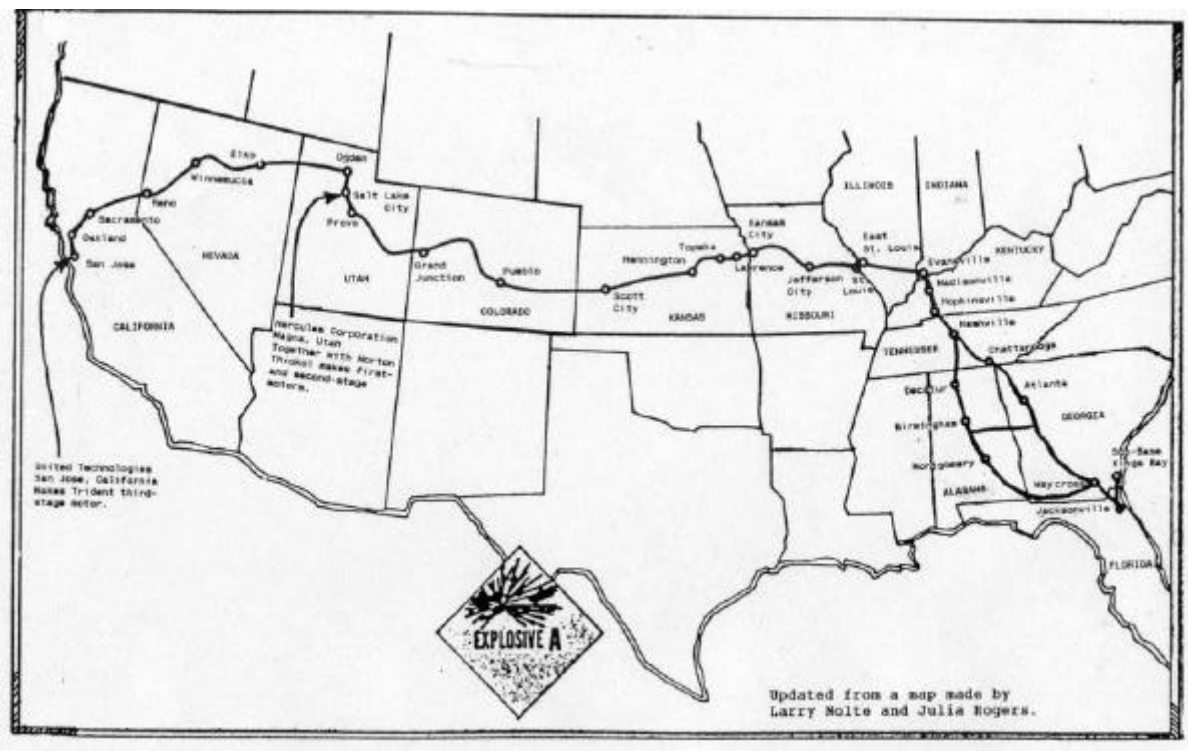


DODX Missile Motor Boxcar
Photo courtesy of the Agape Community.

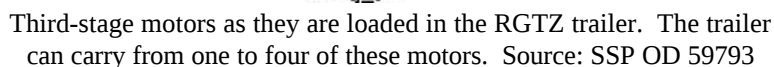
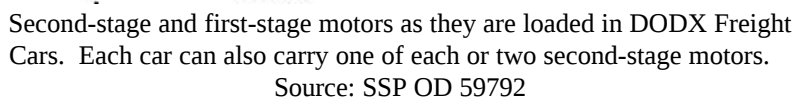
Conditions became acute in Alabama in November 1988 when an afternoon freight train enroute to Cape Canaveral edged east from Birmingham. It derailed a mile outside of Talladega at about 4:00 PM. Steel box car number DODX 29504 left the tracks with a pair of Trident-2 (D-5) missile motors inside. Flashing warning lights and a placard reading "EXPLOSIVES A" prompted sheriff deputies to immediately evacuate people living within a mile radius.

These close encounters with disaster epitomize the danger that rides the rails of America. They also illustrate the manner in which haphazard precautions and dangerous situations are hidden from the public. Luckily, no one was hurt in either incident. But had a fire started this story could have had a different ending. Had it caught fire in a city, the outcome would have been catastrophic.

The Department of Defense owns nine specially designed and constructed boxcars designated DODX 29500 through 29508. "DOD," of course, meaning that the cars belong to the Department



Railroad Map Of Missile Motor Shipments



of Defense. The “X” signifies they are not owned by the railroad. Each car can transport one first-stage motor, one second-stage motor, one first-stage motor plus one second-stage motor, or two second-stage motors. These boxcars have an environmental control system (air conditioning) which maintain the temperature between 75°F and 90°F, and less than 50% relative humidity, when the outside temperature ranges from -25°F and 120°F.. If the environmental control system should fail and the weather outside is not in that range, a warning light on an upper corner goes on. An emergency battery system keeps the air conditioner running for 12 hours if the diesel generator fails. The boxcars also have an intrusion alarm system.

For that reason, when the train's route will encounter an outside temperature more extreme than the desired shipping range, security escort personnel go along in case the environmental control system fails. To accommodate these people, the DOD has exclusively leased four comfortably-equipped cabooses which are also designated DODX.

Trident-2 motors contain extremely high explosive propellant. It is general practice for over 50 tons of rocket propellant to be shipped in one boxcar. Two such box cars have been observed adjacent to each other in one train -- it is possible there could be more. The propellant composition is secret but it is a real bomb which



RGTZ Trailer With Tri-State Tractor.
Photo Courtesy Of The Agape Community.



RGTZ Trailer On A Flat Car
Photo by Ann Sorensen

can be ignited by fire or a sharp blow. The resulting explosion is so powerful that Trident-2 test launches at Cape Canaveral took place according to stringent weather criteria because under certain atmospheric conditions a motor explosion would damage the nearby town.

The Navy requires wide buffer areas around all locations where Trident motors are handled and assembled. Personnel are also kept to a minimum. But no such safety considerations exists along railroad tracks and roads during transit because, according to the Navy, commercial carriers are subject only to Department of Transportation regulations. There are, however, special instructions warning that if a fire reaches the cargo compartment everyone, fire fighters and the public alike, must withdraw to at least one mile from the scene. Under such lax transportation procedures, these multi-ton bombs pass through our communities unannounced. Even the Alabama sheriffs didn't know what was in that fractious boxcar in November 1988.

The Navy also has a *Casualty Plan For Environmentally-Controlled Boxcar (D-5 Railcar)* document which outlines the procedure for recovering a derailed and overturned boxcar containing D-5 missile

motors. Under the section for On-The-Scene Emergency Actions it states: "Certain actions are required immediately after a derailment to assure the electrical and fuel systems are shut down and then deactivated to eliminate potential sources of fire or explosion."³ These include shutting off electrical and fuel supplies, grounding the railcar to tracks or ground rod, removing the generator and alarm system batteries, flushing spilled acid or fuel with water, draining or siphoning the fuel tank if leaking, and preventing any smoking or welding/cutting operations. There are also special places for attaching cable to recover an overturned boxcar in order to prevent crushing the missile motor inside. The procedure warns that "collapse of the boxcar structure resulting in compression of the motors is extremely dangerous."⁴

It is sobering to recognize the potential hazards from overturned D-5 Railcars, and the critical procedures necessary to prevent them, but it is downright scary to realize that no one knows about these procedures. Local authorities do not even know when such a cargo passes through their territory let alone the immediate actions necessary to prevent catastrophe. Furthermore, there is no procedure for recovering a D-5 Railcar if the motor inside is crushed or compressed.

Glen Milner of Seattle has for years studied government bills of lading obtained through the Freedom Of Information Act. From this data he has determined that during the first half of 1992 some

³*Casualty Plan For Environmentally-Controlled Boxcar (D-5 Railcar)*, p. 1.

⁴*Casualty Plan For Environmentally-Controlled Boxcar (D-5 Railcar)*, p. 3.

300 tons of propellant were transported by rail each month. The propellant in all three stages of Trident-2 motors is the so-called class 1.1 propellant which can detonate (as opposed to burn fiercely) from a sharp blow or fire. It is so dangerous that the Air Force will only allow it in the third stage of the silo-based MX missile.

It is this potential for disaster rumbling through Alabama, coupled with the near miss in 1988, which prompted the Birmingham City Council to pass a resolution opposing any further rocket motor shipments through their city.

Trident third-stage motors are made at the United Technologies' Chemical Systems Division plant near San Jose, California. The completed motors are trucked from San Jose to Oakland in a special RGTZ trailer which is painted white and marked "Rio Grande The Action Railroad." Each trailer can hold up to four third-stage motors. An air-conditioning system maintains a temperature between 60°F and 90°F when outside temperatures range from -25°F to 120°F. Two warning lights are on the right-upper-front corner -- one to warn if the temperature is out of the desired range, and the other to indicate a power loss. A yellow diamond sign denotes a cargo rated "Explosives A." Tri-State tractors have been used to pull the RGTZ trailers but it now appears that Diablo Transportation may be doing the trucking between San Jose and Oakland.

At the Oakland freight yard the trailer is loaded onto a flat car for shipment to its destination. There is no procedure for recovering an overturned RGTZ trailer, either on the road or on a flat car.

C. NUCLEAR WARHEAD CONVOYS ON BRITISH ROADS

This section by Nigel Chamberlain and Di McDonald (Nukewatch-UK).

Nuclear weapons transportation in Britain is by road. Trident warheads are moved from AWE Burghfield near Reading in the south of England to RNAD Coulport on the Clyde near Glasgow in Scotland. The convoys travel all types of roads in all weather conditions, and frequently vary their route to avoid attention. At their destination, the warheads are stored in underground bunkers until required for the operational patrols of *Vanguard*, *Victorious*, *Vigilant* and *Vengeance* from their Faslane submarine base.



Foden Tractor With Truck Cargo Heavy Duty Mark II
Nuclear Warhead Carrier.

Photo courtesy of Nukewatch-UK and CND.

Unmarked warhead convoys frequently use the very busy British roads and drive past, or through, major cities (Oxford, London, Peterborough, Leeds, Newcastle, Carlisle, Edinburgh, Glasgow) without informing the Local Authorities. Nukewatch-UK is a network of local activists which monitors the movements of these convoys, and campaigns against secrecy and for public safety.

"Truck Cargo Heavy Duty Mark II" carriers, manufactured by Brown Root Vickers, came into service in 1992. These carriers

(semi-trailers) are built over three axles and are articulated. They are dark green and covered with a green tarpaulin. The tractor units are made by Foden and have a distinctive vertical exhaust pipe and an air conditioning system on the cab with a spiked cooling unit on the right side. There are military number plates on the front of the tractor unit and on the back of the carrier. Apart from two “long vehicle” signs, there are no other warning signs on the carriers.



Convoy Tow Truck
Photo Courtesy of Faslane Peace Camp



Motorcycle Escort
Photo Courtesy of Faslane Peace Camp

As many as five warhead carriers are escorted in convoy by three RAF and MOD motorcycle outriders, two light green transit vans with officers and technicians, four or five grey transit vehicles with armed Royal Marines, a spare tractor unit for breakdowns, a fire engine, a tow truck, and a convoy support vehicle which carries radiation detection and decontamination equipment and is fitted with sophisticated communications.



RAF Transit Van
Photo Courtesy of Faslane Peace Camp



Convoy Support Vehicle
Photo Courtesy of Faslane Peace Camp



Convoy Fire Engine
Photo Courtesy of Faslane Peace Camp

accidents, and one civilian fatality. Most serious of these were the overturning of one carrier on icy roads in Wiltshire on 10 January 1987, a crash which killed a motorist in Somerset on 17 September 1988, and a crash in Northumberland on 11 August 1993 when a large civilian lorry went out of control and seriously injured an RAF motorcyclist at the head of the convoy.

On 1 December 1991, the very busy M25 motorway around London was closed for several hours while a warhead was removed from one vehicle by crane and transferred to another vehicle. Typically, the military attempt to deal with these potential hazardous “incidents” with their own resources and keep local authority emergency services in the dark.

Nukewatchers inform local authorities of the movements of nuclear warhead convoys and work closely with journalists to inform an unassuming public. They lobby local and national politicians and prepare briefings for interested organizations and political parties. Some Nukewatchers are also involved with direct action against the convoys which impedes their progress, draws attention to the secrecy, and builds opposition to the development of the nuclear state.

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