

*Version 1.0—July, 1998*

**Rail and Highway Regulations Relative to the Transportation of Radioactive Materials**

**AND**

**Their Applicability to States, Tribes, Shippers, and Carriers**

SUBJECT AREA	RAIL	HIGHWAY	STATE APPLICABILITY	TRIBAL APPLICABILITY <sup>1,2</sup>	SHIPPER <sup>3</sup> /CARRIER RESPONSIBILITY	ADDITIONAL INFORMATION
Packaging	10 CFR 71	10 CFR 71			Shipper, Carrier	<b>10 CFR 71</b> —Establishes requirements for packaging, preparation for shipment, and transportation of licensed material; as well as procedures for NRC approval of said activities
	49 CFR 173, sub. I	49 CFR 173, sub I			Shipper, Carrier	<b>49 CFR 173, sub I</b> —Sets forth requirements for the packaging and transportation of Class 7 (radioactive) materials.
	49 CFR 174		✓	✓	Shipper, Carrier	<b>49 CFR 174</b> —Requirements applicable to acceptance and transport of radioactive materials packages by rail.
		49 CFR 177	✓	✓	Shipper, Carrier	<b>49 CFR 177</b> —Requirements applicable to acceptance and transport of radioactive materials packages by motor vehicle.
	49 CFR 178, sub. K	49 CFR 178, sub. K	✓	✓	Shipper, Carrier	<b>49 CFR 178, sub. K</b> —Specifications for packagings for Class 7 (radioactive) materials.
	49 CFR 179				Shipper, Carrier	<b>49 CFR 179</b> —Prescribes specifications for construction and repair of tank cars.
	49 CFR 180	49 CFR 180			Shipper, Carrier	<b>49 CFR 180</b> —Requirements pertaining to the maintenance, reconditioning, repair, inspection, and testing of packaging.

<sup>1</sup> “Applicability” in this sense refers to cases wherein the state or federally-recognized Indian tribe is expressly enumerated in the regulation as a distinct jurisdiction with clearly defined responsibilities related to compliance with the regulation, not to cases where the regulation is defined to apply more broadly to “all persons in the United States”, except in certain cases where a regulation defines “persons” to include state and tribal political entities.

<sup>2</sup> For the purposes of the regulations considered herein, all federally recognized Indian Tribes are subject to the same requirements and considerations as those applied to states *except where expressly noted*.

<sup>3</sup> Some regulations may use “Licensee” where applicable.

SUBJECT AREA	RAIL	HIGHWAY	STATE APPLICABILITY	TRIBAL APPLICABILITY	SHIPPER/CARRIER RESPONSIBILITY	ADDITIONAL INFORMATION
Hazard identification and definition <sup>4</sup>	49 CFR 172	49 CFR 172			Shipper, Carrier	49 CFR 172—Lists and classifies various substances considered hazardous (including radioactive) for the purposes of transportation, and prescribes requirements for transport.
	49 CFR 173, sub I	49 CFR 173, sub I				49 CFR 173, sub I— Sets forth hazard class definitions and requirements for the packaging and transportation of Class 7 (radioactive) materials.
		49 CFR 177			Shipper, Carrier	49 CFR 177—Provides segregation and compatibility tables and transport index for radioactive materials
Training <sup>5</sup>	29 CFR 1910	29 CFR 1910	✓	✓	Shipper, Carrier	29 CFR 1910—Defines requirements for awareness and technician level training.
	49 CFR 107		✓			49 CFR 107—Registration and licensing requirements involving annual fees for state-level training.
	49 CFR 172, sub. H	49 CFR 172, sub. H	✓	✓	Shipper, Carrier	49 CFR 172, sub.H—prescribes requirements and responsibilities for training hazmat employees
		49 CFR 177			Carrier	49 CFR 177—No carrier shall transport hazardous materials unless each employee has been trained in all applicable procedures for safe operation.
	49 CFR 240		✓	✓	Carrier	49 CFR 240—Each railroad must have a certification program for engineers.

<sup>4</sup> Two regulations are notably absent. 40 CFR 261.4 excludes “source, special nuclear, or [nuclear] byproduct material” as defined by the Atomic Energy Act of 1954 (as amended) from consideration as a “hazardous waste” for the purposes of EPA regulation. 40 CFR 262.11 excludes items contained in 40 CFR 261.4 from its transportation-related requirements.

<sup>5</sup> “Training” in the context of this matrix refers to any requirements specified by federal rule or regulation for any person involved in the transportation of Class 7 hazardous materials.

SUBJECT AREA	RAIL	HIGHWAY	STATE APPLICABILITY	TRIBAL APPLICABILITY	SHIPPER/CARRIER RESPONSIBILITY	ADDITIONAL INFORMATION
Safety, Inspection, and Enforcement	10 CFR 19	10 CFR 19			Carrier	10 CFR 19--Establishes requirements for notices, instructions, and reports by licensees to individuals participating in their activities.
	10 CFR 20	10 CFR 20				10 CFR 20—Establishes radiation protection standards for licensee activities
	49 CFR 173, sub I	49 CFR 173, sub I			Shipper, Carrier	49 CFR 173, sub I— Sets forth requirements for the packaging and transportation of Class 7 (radioactive) materials.
	49 CFR 174				Shipper, Carrier	49 CFR 174—Establishes detailed handling requirements for Class 7 (radioactive) materials transported by rail
		49 CFR 177			Shipper, Carrier	49 CFR 177—Records, equipment, packagings, and containers must be made available for examination by DOT. Driver training includes inspection procedures.
	49 CFR 209		✓	✓	Shipper, Carrier	49 CFR 209—Describes procedures employed by the FRA in enforcement of railroad safety statutes and regulations.
	49 CFR 210				Shipper, Carrier	49 CFR 210—Provides compliance criteria concerning requirements for inspection and testing of equipment relative to noise emissions from rail cars.
	49 CFR 211					49 CFR 211—Establishes safety-related rulemaking practices.
	49 CFR 212		✓		Shipper, Carrier	49 CFR 212—Establishes standards and procedures for state participation in investigative and surveillance activities under Federal railroad safety laws.
	49 CFR 213				Carrier	49 CFR 213—Initial minimum safety responsibilities and requirements for railroad track.
	49 CFR 214				Carrier	49 CFR 214—minimum Federal requirements for railroad safety standards for railroad employees.
	49 CFR 215				Carrier	49 CFR 215—Minimum Federal safety standards for rail freight cars
	49 CFR 216		✓	✓	Carrier	49 CFR 216—Special notice for repairs and emergency order procedures.
	49 CFR 220				Carrier	49 CFR 220—Minimum standards for and definition of use of radio communication in railroad operations.
	49 CFR 221		✓	✓	Carrier	49 CFR 221—Minimum requirements for rear-end marking devices on trains.
	49 CFR 223				Carrier	49 CFR 223—Minimum Federal safety standards for impact resistance of all window glazing materials in locomotives, passenger cars, and cabooses.

Safety, Inspection, and Enforcement (CONTINUED)	49 CFR 228				Carrier	49 CFR 228—Prescribes reporting and record keeping requirements regarding the hours of service.	
	49 CFR 229				Carrier	49 CFR 229—Minimum Federal safety standards for all locomotives (except steam); requires daily and periodic inspections and tests, sets limits on component deterioration.	
	49 CFR 231				Carrier	49 CFR 231—Supplements statutory requirements concerning handbrakes, handholds, steps, and ladders for locomotives and rail cars.	
	49 CFR 232				Carrier	49 CFR 232—Supplements statutory requirements of brake systems of all locomotives and railroad cars. Sets requirements for pre-departure inspection and testing.	
	49 CFR 233				Carrier	49 CFR 233—Requires annual report to FRA on signal systems and periodic reports to FRA on certain signal failures.	
	49 CFR 234				Carrier	49 CFR 234—Requires maintenance, inspection, and testing of active warning devices at grade crossings.	
	49 CFR 235				Carrier	49 CFR 235—Prohibits discontinuance or modification of certain signal systems without prior approval by FRA.	
	49 CFR 236				Carrier	49 CFR 236—Prescribes minimum Federal standards for design, inspection, testing, and remedial action of signal systems.	
	49 CFR 240			✓	Carrier	49 CFR 240—Minimum standards for eligibility, training, testing, certification, and monitoring of locomotive engineers.	
		49 CFR 325				Carrier	49 CFR 325—Procedures for inspection, surveillance, and measurement of motor vehicles by motor carriers to determine compliance with EPA Noise Emission Standards.
		49 CFR 350	✓	✓		Carrier	49 CFR 350—Encourages each state to enforce uniform motor carrier safety and hazardous materials regulations for carriers and drivers.
		49 CFR 355	✓	✓		Carrier	49 CFR 355—Seeks compatibility of state laws and regulations relating to motor carrier safety with the Federal Motor Carrier Safety Regulations.
		49 CFR 383	✓	✓		Carrier	49 CFR 383—Requires a single Commercial Driver's License for operators of commercial vehicles. Provides disqualifying criteria for unsafe operators.
	49 CFR 384	✓	✓		Carrier	49 CFR 384—Includes minimum standards for the actions states must take to comply with the Commercial Motor Vehicle Safety Act of 1986.	

<b>Safety, Inspection, and Enforcement (CONTINUED)</b>		<b>49 CFR 386</b>			Carrier	<b>49 CFR 386</b> —Governs proceedings to determine compliance of motor carriers and their drivers with FHWA regulations and procedures.
		<b>49 CFR 387</b>	✓	✓	Carrier	<b>49 CFR 387</b> —Prescribes minimum levels of financial responsibility to be maintained by motor carriers to ensure continued safe operation of motor vehicles.
		<b>49 CFR 388</b>	✓	✓	Carrier	<b>49 CFR 388</b> —Establishes procedures for any state to enter into a cooperative agreement with the Federal government to enforce state safety laws and regulations related to motor carrier operations.
		<b>49 CFR 390</b>	✓	✓	Carrier	<b>49 CFR 390</b> —General rules of applicability and definition of Federal motor carrier safety regulations
		<b>49 CFR 391</b>	✓	✓	Carrier	<b>49 CFR 391</b> —Establishes minimum qualifications for drivers of commercial motor vehicles; establishes minimum duties of motor carriers with respect to their drivers.
		<b>49 CFR 392</b>	✓	✓	Carrier	<b>49 CFR 392</b> —Enumerates specific operating rules for drivers and supervisors of commercial motor vehicles.
		<b>49 CFR 393</b>			Carrier	<b>49 CFR 393</b> —Enumerates parts and accessories necessary for safe operation of a commercial motor vehicle.
		<b>49 CFR 395</b>	✓	✓	Carrier	<b>49 CFR 395</b> —Establishes Federal standards for acceptable hours of service by drivers of commercial motor vehicles.
		<b>49 CFR 396</b>			Carrier	<b>49 CFR 396</b> —Assigns procedures and responsibilities for inspection, maintenance, and repair of commercial motor vehicles.
		<b>49 CFR 397</b>	✓	✓	Carrier	<b>49 CFR 397</b> —Covers all rules associated with driving, marking, and parking a commercial motor vehicle engaged in the transportation of hazardous (including Class 7) hazardous materials.

SUBJECT AREA	RAIL	HIGHWAY	STATE APPLICABILITY	TRIBAL APPLICABILITY	SHIPPER/CARRIER RESPONSIBILITY	ADDITIONAL INFORMATION
Transportation Operations	10 CFR 71	10 CFR 71	✓	✓	Shipper, Carrier	<b>10 CFR 71</b> —Establishes requirements for packaging, preparation for shipment, and transportation of licensed material; as well as procedures for NRC approval of said activities
	49 CFR 171	49 CFR 171	✓	✓	Shipper, Carrier	<b>49 CFR 171</b> —Prescribes DOT requirements governing the transportation of hazardous (including radioactive) materials in commerce.
	49 CFR 173, sub I	49 CFR 173, sub I			Shipper, Carrier	<b>49 CFR 173, sub I</b> — Sets forth requirements for the packaging and transportation of Class 7 (radioactive) materials.
	49 CFR 174				Shipper, Carrier	<b>49 CFR 174</b> —Details requirements for Class 7 shipping and handling documentation requirements pertaining to rail carriers.
		49 CFR 177			Shipper, Carrier	<b>49 CFR 177</b> —Details requirements for Class 7 shipping and handling documentation requirements pertaining to highway carriers.
	49 CFR 210				Shipper, Carrier	<b>49 CFR 210</b> —Provides minimum compliance regulations for enforcement of EPA Noise Emission Standards for railroads.
	49 CFR 212		✓		Shipper, Carrier	<b>49 CFR 212</b> —Establishes standards and procedures for state participation in investigative and surveillance activities under Federal railroad safety laws.
	49 CFR 213				Carrier	<b>49 CFR 213</b> —Initial minimum safety responsibilities and requirements for railroad track.
	49 CFR 214				Carrier	<b>49 CFR 214</b> —minimum Federal requirements for railroad safety standards for railroad employees.
	49 CFR 216		✓	✓	Carrier	<b>49 CFR 216</b> —Special notice for repairs and emergency order procedures.
	49 CFR 217				Carrier	<b>49 CFR 217</b> —Establishes requirements for railroads to notify FRA and employees of operating rules.
	49 CFR 218				Carrier	<b>49 CFR 218</b> —Minimum requirements for railroad operating rules and practices.
	49 CFR 221		✓	✓	Carrier	<b>49 CFR 221</b> —Minimum requirements for rear-end devices on trains.
	49 CFR 228				Carrier	<b>49 CFR 228</b> —Prescribes reporting and record keeping requirements regarding hours of service.
	49 CFR 229				Carrier	<b>49 CFR 229</b> —Minimum Federal safety standards, requiring daily and periodic inspections and tests.
	49 CFR 236				Carrier	<b>49 CFR 236</b> —Prescribes minimum Federal standards for installation of signal systems.
49 CFR 240		✓	✓	Carrier	<b>49 CFR 240</b> —Each railroad must have a certification	

						program for engineers.
<b>Transportation Operations (CONTINUED)</b>		<b>49 CFR 325</b>	✓	✓	Carrier	<b>49 CFR 325</b> —Applies EPA Noise Emission Standards to motor vehicles engaged in interstate commerce under any condition.
		<b>49 CFR 350</b>	✓	✓	Carrier	<b>49 CFR 350</b> —Proscribes requirements for federal assistance to states for programs to adopt and enforce federal rules, regulations, standards, and orders applicable to commercial motor vehicle safety.
		<b>49 CFR 355</b>	✓	✓	Carrier	<b>49 CFR 355</b> —Ensures compatibility of state laws and regulations affecting interstate motor carrier operations.
		<b>49 CFR 383</b>	✓	✓	Carrier	<b>49 CFR 383</b> —Establishes knowledge and skills related to operation of motor vehicle necessary to obtain and retain a Commercial Driver's License.
		<b>49 CFR 384</b>	✓	✓	Carrier	<b>49 CFR 384</b> —Operators must undergo a program of testing to ensure fitness for operation of commercial motor vehicles.
		<b>49 CFR 387</b>	✓	✓	Carrier	<b>49 CFR 387</b> —Establishes financial responsibilities for motor carriers to ensure their maintenance and operation of vehicles in a safe manner.
		<b>49 CFR 388</b>	✓	✓	Carrier	<b>49 CFR 388</b> —Establishes procedures for any state to enter into a cooperative agreement with the Federal government to enforce state safety laws and regulations related to motor carrier operations.
		<b>49 CFR 390</b>	✓	✓	Carrier	<b>49 CFR 390</b> —General rules of applicability and definition of Federal motor carrier safety regulations.
		<b>49 CFR 392</b>	✓	✓	Carrier	<b>49 CFR 392</b> —Enumerates specific operating rules for drivers and supervisors of commercial motor vehicles.
		<b>49 CFR 393</b>	✓	✓	Carrier	<b>49 CFR 393</b> —Enumerates parts and accessories necessary for safe operation of a commercial motor vehicle.
		<b>49 CFR 395</b>	✓	✓	Carrier	<b>49 CFR 395</b> —Establishes Federal standards for acceptable hours of service by drivers of commercial motor vehicles.
		<b>49 CFR 396</b>	✓	✓	Carrier	<b>49 CFR 396</b> —Assigns procedures and responsibilities for inspection, maintenance, and repair of commercial motor vehicles.
		<b>49 CFR 397</b>	✓	✓	Carrier	<b>49 CFR 397</b> —Covers all rules associated with driving, marking, and parking a commercial motor vehicle engaged in the transportation of hazardous (including Class 7) hazardous materials.

SUBJECT AREA	RAIL	HIGHWAY	STATE APPLICABILITY	TRIBAL APPLICABILITY	SHIPPER/CARRIER RESPONSIBILITY	ADDITIONAL INFORMATION
Substance Abuse	49 CFR 219				Shipper, Carrier	49 CFR 219—Minimum Federal safety standards for control of alcohol and drug use in railroad operations.
		49 CFR 382	✓ <sup>6</sup>		Shipper, Carrier	49 CFR 382—Establishes programs to prevent accidents and injuries resulting from alcohol or controlled substance use by drivers of commercial motor vehicles.
Emergency Response, Cleanup, and Remediation	29 CFR 1910.120	29 CFR 1910.120	✓		Carrier	29 CFR 1910.120—Covers employees in hazardous (including radioactive) waste clean-up and emergency response operations if said operations involve a possibility of employee exposure.
	49 CFR 174		✓		Shipper, Carrier	49 CFR 174—Establishes detailed handling requirements for Class 7 (radioactive) materials transported by rail
		49 CFR 177	✓	✓	Shipper, Carrier	49 CFR 177—Establishes procedures for treatment of disabled vehicles and damaged containers.
	49 CFR 225		✓	✓	Shipper, Carrier	49 CFR 225—Includes requirements for reports and records of “accidents” and “incidents” arising from railroad operations.

<sup>6</sup> The state role in highway regulations related to substance abuse is confined to a limited discretion available to states in excepting certain persons (i.e. military personnel, farmers, or emergency response personnel) from certain aspects of state CDL standards.



SUBJECT AREA	RAIL	HIGHWAY	STATE APPLICABILITY	TRIBAL APPLICABILITY	SHIPPER/CARRIER RESPONSIBILITY	ADDITIONAL INFORMATION
Licensing/ Nuclear Security	10 CFR 10	10 CFR 10			Carrier	<b>10 CFR 10</b> —Establishes requirements for special nuclear material access authorization.
	10 CFR 11	10 CFR 11			Carrier	<b>10 CFR 11</b> -- Establishes requirements for special nuclear material access authorization.
	10 CFR 25	10 CFR 25			Carrier	<b>10 CFR 25</b> —Procedures relating to access authorization of licensee personnel.
	10 CFR 31	10 CFR 31	✓	✓	Shipper, Carrier	<b>10 CFR 31</b> —Establishes general licenses for possession, use, and ownership of certain byproduct material.
	10 CFR 32	10 CFR 32	✓	✓	Shipper, Carrier	<b>10 CFR 32</b> —Prescribes requirements for issuance of specific licenses to parties who manufacture or initially transfer certain byproduct material.
	10 CFR 33	10 CFR 33			Carrier	<b>10 CFR 33</b> —Prescribes requirements for the issuing “specific licenses of broad scope”
	10 CFR 40	10 CFR 40	✓	✓	Shipper <sup>7</sup> , Carrier	<b>10 CFR 40</b> —Establishes procedures and criteria for the issuance of source material licenses; also provides for disposal and long-term care of byproduct and residual materials and uranium.
	10 CFR 72	10 CFR 72	✓	✓	Shipper, Carrier	<b>10 CFR 72</b> —Requirements, procedures, and criteria for the issuance of licenses to receive, transfer, or possess spent fuel and other materials for spent fuel storage.
	10 CFR 73	10 CFR 73	✓	✓	Shipper, Carrier	<b>10 CFR 73</b> —Prescribes requirements for the establishment and maintenance of a physical protection system of special nuclear material at fixed sites and in transit.
	10 CFR 74	10 CFR 74	✓	✓	Shipper, Carrier	<b>10 CFR 74</b> —Contains the requirements for the control and accounting of special nuclear material at fixed sites and for documenting the transfer of special nuclear materials.
	10 CFR 110	10 CFR 110			Shipper <sup>8</sup> , Carrier	<b>10 CFR 110</b> —Licensing, enforcement, and rulemaking procedures and criteria for the export of nuclear equipment and material.
	10 CFR 150	10 CFR 150	✓	✓	Carrier	<b>10 CFR 150</b> —Provides certain exemptions to persons in Agreement States from some licensing requirements and NRC requirements in certain cases.

<sup>7</sup> DOE prime contractors partially exempt

<sup>8</sup> excludes DOE and DOD for activities authorized by sections 54, 64, 82, and 91 of the Atomic Energy Act; except in cases where DOE seeks an export license under section 111 of same.

<b>Licensing/ Nuclear Security (CONTINUED)</b>	<b>49 CFR 172</b>	<b>49 CFR 172</b>			Shipper, Carrier	<b>49 CFR 172</b> —Lists and classifies various substances considered hazardous (including radioactive) for the purposes of transportation, and prescribes requirements for transport.
	<b>49 CFR 173, sub I</b>	<b>49 CFR 173, sub I</b>			Shipper, Carrier	<b>49 CFR 173, sub I</b> — Sets forth requirements for the packaging and transportation of Class 7 (radioactive) materials.
	<b>49 CFR 223</b>				Carrier	<b>49 CFR 223</b> —Requires installation of window glazing materials sufficient to resist both bullet and large object impacts.