

# A QUICK CHECKLIST For Transport of Radioactive Materials

The checklist below provides a high level reminder of some of the steps to consider in a typical radioactive material shipping project that does not transport waste, spent fuel, or weapons. Looking beyond the sub-tier objective of relocating material, most projects begin with a material in one form in an originating location and end with material in a different form at its destination. By identifying several packing and shipping configurations and material processes that all result in an acceptable product delivery, you can usually assign a cost, schedule, and risk to each step for each approach and then select the favored way of getting the radioactive material from point A to point B as part of a larger process. The checklist is oriented to DOE sites and their terminology, but most of it would apply to any radioactive material facility. Prior to shipment, processing of products can often create a package content for which packaging is readily available, so that transportation costs are greatly reduced. Subsequent costs of producing the physico-chemical form most desirable to the receiver should also be considered when evaluating how to process a material for shipment.

<b><i>Determine Contents Prep Process and Prepare Contents for Shipment</i></b>	<b>Establish Shipper's and Receiver's Specific Requirements Regarding Package Content and Delivery</b>
	<b>Plan for Process Impact on Facility Safety / PPE / Job Hazards / Worker Training / Emergency Planning / Equipment / Procedures</b>
	<b>Process Facility Licensing / Permitting / Safety Basis Changes</b>
	<b>Readiness Review</b>
	<b>Content Resizing, Blending, Segregating, Stabilizing, Chemical Reaction, Encapsulating, Selection and Loading of Inner Packaging</b>
	<b>Product Sampling and Laboratory Analysis / Nondestructive Assay</b>
	<b>Determine Post-Processing Proper Shipping Name per HMT.</b>
<b><i>Obtain and Prepare Packaging</i></b>	<b>Package Selection (Determine Content Form per DOT based on A1 or A2, Check meeting LSA or SCO - Industrial Package, LQ - Excepted Packaging, Type A, Type B, (F) - fissile, Overpack, Capacity Needs, Weight Requirements, ASME Code Vessel, ANSI, DOT Specific</b>
	<b>Package Licensing, SARP Revision, COC Changes, Criticality Safety Report or Revision, Prepare DOT Special Permit Application, Overweight or Oversize Permits</b>
	<b>Packaging Design</b>
	<b>Package Testing / Modeling</b>
	<b>Packaging Fabrication</b>
	<b>Package QA</b>
<b><i>Prepare Transportation Plan</i></b>	<b>Select Conveyance (tractor weight, trailer weight, trailer weight capacity rating, deck accessibility, headboard, enclosed van, security, escorts, carrier)</b>
	<b>Determine Route Controlled Quantity / Major Campaign</b>
	<b>Route Selection</b>
	<b>Evaluate Risk - Normal Risk / Accident Risk</b>
	<b>Obtain Stakeholder Input</b>
	<b>Prepare Emergency Plan</b>
	<b>GPS Tracking</b>
	<b>Driver Training</b>
	<b>Rigger Training</b>
	<b>Driver Biometrics</b>
	<b>Real Time TID</b>
	<b>Load Securement - Tie Down Plan</b>
	<b>Plan Load Lifting and Handling at Shipper and Receiver Sites - Load Hoisting and Rigging - Equipment Requirements</b>

<i>Prepare Shipment</i>	<b>Package Prototype Fabrication, Packaging and Handling Procedure Demonstration, Dry Runs</b>
	<b>Provide Package Content Data to Receiver Site</b>
	<b>Obtain Receiver's Authorization to Ship</b>
	<b>Prepare Accountable Material Transfer Papers</b>
	<b>Survey Package</b>
	<b>Post-Survey Reevaluation of Package Content</b>
	<b>Mark / Label Package (UN#, special labeling)</b>
	<b>Handle Package</b>
	<b>Hoisting and Rigging - Move and Lift</b>
	<b>Secure Load</b>
	<b>Survey Conveyance</b>
	<b>Check Shipment Classification</b>
	<b>Prepare Straight Bill of Lading (Shipping Paper) with Emergency Phone No. Conspicuous and on Back -- Attach Emergency Response Instructions and Number Pages</b>
	<b>On Shipping Paper Reference DOT SP-# Special Permit Number under Description if permit is employed</b>
	<b>On Shipping Paper List Nuclides, Phys/Chem form, Activity in Bq or TBq, label category, TI, fissile excepted (or fissile CI), DOE or NRC pkg ID marking, Exclusive Use Shipment, HRCQ, and other 49CFR172.203(d) requirements that apply - no Packing Group#</b>
<b>Placard Shipment per Confirmed Classification</b>	
<b>Check Driver Qualifications</b>	
<b>Inspect Conveyance</b>	
<i>Final Checks / Shipment</i>	<b>Driver Checks Load Securement</b>
	<b>COC and Special Permit(s) on Board as Required</b>
	<b>Licensing Conditions Complied With</b>
	<b>Completed Straight Bill of Lading (Shipping Paper) Onboard</b>
	<b>Emergency Plan Attached to Shipping Paper</b>
	<b>Conveyance TIDs in Place</b>
	<b>Check Weights at Scale</b>
	<b>GPS Tracking</b>
	<b>Communications Operable</b>
	<b>Tractor Fueled</b>
	<b>Escorts Ready</b>
	<b>Qualified Backup Driver Onboard</b>
	<b>Drive to Receiver Site</b>
	<b>Respond to Emergency / Accident</b>
<b>49CFR171.15 and .16 Telephone and Written Incident Reporting</b>	
<i>Receiver Site Acceptance of Shipment</i>	<b>Notify Receiver of Arrival</b>
	<b>Survey Conveyance</b>
	<b>Handle Package</b>
	<b>Hoisting and Rigging - Move and Lift</b>
	<b>Survey Package</b>
	<b>Accept Contents</b>
<b>Empty Container(s) / Ship Empties Back by Same Process</b>	

**DYNEMATICS HOME**