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New Chapter 6, Article 2.7 (Sections 1158 through 1159) is adopted to read:

Title 13 - California Code of Regulations

Chapter 6. Hazardous Materials

Article 2.7. Routes for the Through Transportation of Highway Route Controlled Quantity Shipments of Radioactive Materials

§ 1158. Applicability.

(a) This article designates the through routes to be used for the transportation of highway route controlled quantity shipments of radioactive materials subject to Section 33000 of the Vehicle Code.

(b) This article shall apply to the transportation of *highway route controlled quantity shipments* of radioactive materials as defined in Title 49, Code of Federal Regulations, Section 173.403 (1).

Note: Authority cited: Section 33000, Vehicle Code. Reference: Section 33000, Vehicle Code.

§ 1158.1. Designation of Routes.

The highways to be used for transportation of commodities listed in Section 1158 are set forth in Section 1159.

Note: Authority cited: Section 33000, Vehicle Code. Reference: Section 33000, Vehicle Code.

§ 1158.2. Routes Travelled and Stopping.

No person shall drive or permit the driving of any vehicle transporting commodities listed in Section 1158 upon any highway not designated by this article. Deviation from the routes may occur only for the following: necessary pickup and delivery, in route inspections as required by Federal law, necessary rest, fuel or motor vehicle repair stops, or as directed in an emergency by fire or police officials having jurisdiction of the roadway in use.

Note: Authority cited: Section 33000, Vehicle Code. Reference: Section 33000, Vehicle Code.

§ 1158.3. Time of Day and Day of Week Considerations.

Time of day and day of week considerations are deferred to federal regulation currently found in Title 49 Code of Federal Regulations, Section 177.825.

Note: Authority cited: Section 33000, Vehicle Code. Reference: Section 33000, Vehicle Code and Title 49 Code of Federal Regulations, Section 177.825.

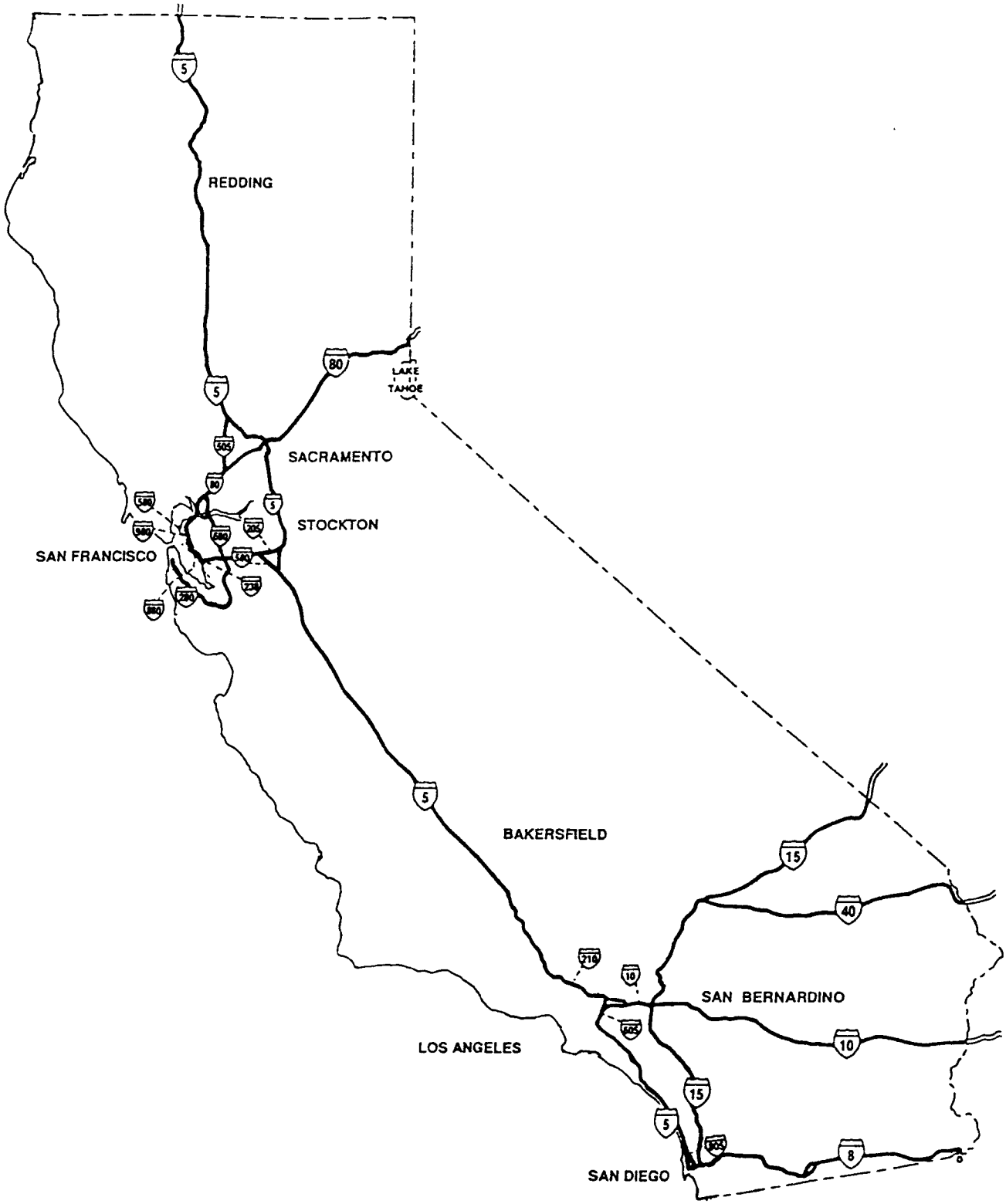
§ 1159. Routes

(a) Narrative listing of routes.

(1) Interstate Highway 5: From the State of Oregon border to Interstate Highway 210 and from Interstate Highway 605 to Interstate Highway 805
(2) Interstate Highway 8: From the State of Arizona border to Interstate Highway 805.
(3) Interstate Highway 10: From the State of Arizona border to Interstate Highway 605.
(4) Interstate Highway 15: From the State of Nevada border to Interstate Highway 8.
(5) Interstate Highway 40: From the State of Arizona border to Interstate Highway 15.
(6) Interstate Highway 80: From the State of Nevada border to Interstate Highway 580 in the City of Oakland
(7) Interstate Highway 205: From Interstate Highway 5 to Interstate Highway 580.
(8) Interstate Highway 210: From Interstate Highway 5 to Interstate Highway 10.
(9) Interstate Highway 238: From Interstate Highway 580 to Interstate Highway 880.
(10) Interstate Highway 280: From Interstate Highway 680 to Interstate Highway 380.
(11) Interstate Highway 505: From Interstate Highway 80 to Interstate Highway 5.
(12) Interstate Highway 580: From Interstate Highway 5 to Interstate Highway 238.
(13) Interstate Highway 605: From Interstate Highway 210 to Interstate Highway 5.
(14) Interstate Highway 680: From Interstate Highway 80 to Interstate Highway 280.
(15) Interstate Highway 805: From Interstate Highway 5 (north of the City of San Diego) to Interstate Highway 5 (south of the City of San Diego).
(16) Interstate Highway 880: From Interstate Highway 980 to Interstate Highway 238.
(17) Interstate Highway 980: From Interstate Highway 580 to Interstate Highway 880.

Note: Authority cited: Section 33000, Vehicle Code. Reference: Section 33000, Vehicle Code.

(b) Route Map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LAKE TAHOE
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STOCKTON
SAN FRANCISCO
BAKERSFIELD
SAN BERNARDINO
LOS ANGELES
SAN DIEGO

Final Statement of Reasons

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

Final Statement of Reasons - August 1994
Designation of Routes for the Through Transportation of Highway Route Controlled Quantity Shipments of Radioactive Materials (HMS-94-01)

Pursuant to Section 33000 of the California Vehicle Code, the Department of California Highway Patrol is establishing route designations for the through transportation of highway route controlled quantity shipments of radioactive materials. The federal government has established all interstate highways as approved routes; the Department of California Highway Patrol is proposing to designate only those routes necessary for through transportation.

PURPOSE OF REGULATIONS

Section 33000 of the California Vehicle Code mandates the California Highway Patrol to adopt regulations necessary to implement the routing of highway route controlled quantity shipments of radioactive materials.

These proposed regulations contain a verbal description and map of the preferred routes for the transportation of highway route controlled quantity shipments of radioactive materials pursuant to Section 33000 of the California Vehicle Code.

The following two changes without regulatory effect have been made to the proposed regulations:

1. Proposed Title 13 California Code of Regulations Chapter 6, Article 2.7 Section 1159(a)(4) should read Interstate Highway 15: From the State of Nevada border to Interstate Highway 8. This section mistakenly identified Interstate Highway 15 bordering with the state of Arizona.

2. Proposed Title 13 California code of Regulations Chapter 6, Article 2.7 Section 1159(a)(6) should read Interstate Highway 80: From the State of Nevada border to Interstate Highway 580 in the City of Oakland. "In the City of Oakland" was added for clarification.

LEGISLATIVE HISTORY

1959 Sections 33000 and 33001 were added to the California Vehicle Code in September 1959. Section 33000 defined "Radioactive Materials" for the purposes of the California Vehicle Code. Section 33001 provided that the State Fire Marshal may

adopt regulations that may promote the safe transportation of radioactive materials.

1961 In September 1961, Section 25651 was added to the Health & Safety Code. This section provided that the California Department of Health Services shall adopt regulations to promote the safe transportation of radioactive materials. The section also included a provision that the regulations may include routes. Section 33000, California Vehicle Code was amended to require that the transportation of radioactive materials comply with the provisions of the Health & Safety Code. Section 33001, California Vehicle Code relating to the State Fire Marshal's authority to adopt radioactive materials regulations was repealed.

1981 In January 1981, Section 33000, California Vehicle Code and Section 25651, Health and Safety Code were amended. These sections provided that the California Highway Patrol shall adopt regulations specifying the routes to be used for the transportation of hazardous radioactive materials, as such materials are defined in regulations of the California Department of Health Services.

1991 In January of 1991, the California Department of Health Services amended Title 17, Section 30100, California Code of Regulations defining "hazardous radioactive material" as "highway route controlled quantity" of radioactive materials, as defined in Title 49, Section 173.403, Code of Federal Regulations.

DEFINITIONS

- "Highway Route Controlled Quantity" - Defined in Title 49, Code of Federal Regulations, Section 173.403 as a quantity within a single package which exceeds:

  (1) 3000 times the A_1 value of the radionuclides as specified in Section 173.433 for special form radioactive material;

  (2) 3000 times the A_2 value of the radionuclides as specified in Section 173.433 for normal form radioactive material; or

  (3) 30,000 curies, whichever is least.

The following definitions are abstracted from Title 49, Code of Federal Regulations, Part 173:

- A_1 - The maximum activity of special form radioactive material permitted in a Type A package.

- A_2 - The maximum activity of radioactive material, other than special form or low specific activity radioactive material, permitted in a Type A package. These A_1 and A_2 values are either listed in Section 173.435 or may be derived in accordance with

the procedure prescribed in Section 173.433.

- Special Form - Radioactive material that is prepackaged or encapsulated in a special form capsule that can only be opened by destroying the capsule. The criteria for a material meeting the definition of special form are found in Section 173.469, Special Tests. Tests include impact, percussion, bending, heating, leaching, and immersion. A complete certification and supporting safety analysis must be available and on file by each shipper in compliance with Section 173.476.

- Normal Form - Radioactive materials that are not in special form are called normal form. Normal form materials are described in terms of physical form (solid, gas, powder, liquid, etc.) and chemical form (organic salt, nitrite, chloride, sludge, etc.).

- Type A Package - A Type A package defined as its packaging together with its limited radioactive contents. Type A package contents are limited to A_1 or A_2.

- Type A Packaging - A packaging designed to retain the integrity of containment and shielding required by this part under normal conditions of transport as demonstrated by the tests set forth in Sections 173.465 or 173.466, as appropriate. Tests include: water spray (for 1 hour to simulate rainfall of 2 inches per hour), free drop (free fall onto a flat hard surface with distance specified according to packaging weight), compression (5 times the weight of the package for at least 24 hours), and penetration (impact from dropping a 13 pound bar (1-1/4 inch in diameter) vertically from a height of 3.3 feet). Each shipper of a Type A package is required to maintain on file a complete documentation of tests and supporting safety analysis that the construction methods, packaging design, and materials of construction are in compliance with the specifications.

- Type B Package - A Type B package is defined as its packaging together with its radioactive contents.

- Type B Packaging - A packaging designed to retain the integrity of containment and shielding required by this part when subjected to normal conditions of transport and hypothetical accident test conditions set forth in Title 10, Code of Federal Regulations, Part 71. This package must meet all Type A criteria and requirements plus provide adequate protection for serious accident conditions with limited loss of shielding and no loss of containment. The series of accident test requirements include: water immersion (under 15 meters for not less than 8 hours), free drop (from 30 feet onto a flat unyielding surface), puncture (a free drop of 40 inches onto a 6 inch diameter cylindrical steel bar), and thermal test (30 minutes at 1475°F). **Only Type B packaging is used for highway route controlled quantity shipments.**

OVERVIEW OF FEDERAL AND STATE GENERAL ROUTING REQUIREMENTS

Overall authority to regulate the highway movement of hazardous materials is vested in the Federal Government through the Hazardous Materials Transportation Act of 1975, as amended by the Hazardous Materials Transportation Uniform Safety Act of 1990. The Hazardous Materials Transportation Act, as amended, requires the Secretary of the United States Department of Transportation, Research and Special Programs Administration, to issue regulations applicable to interstate, intrastate and foreign commerce. The United States Department of Transportation is the administering agency for the Secretary, and as such promulgates hazardous materials regulations.

State and local governments may also regulate hazardous materials, but only to the extent that they make no regulations which conflict with or are inconsistent with federal regulations.

Section 13 of the Hazardous Materials Transportation Uniform Safety Act amended the statutory preemption authority under Section 112 of the Hazardous Materials Transportation Act (49 United States Code app. 1811) to provide that any requirement of a state or political subdivision is preempted if:

(1) compliance with both the state or political subdivision requirement and the Hazardous Materials Transportation Act, as amended, or the regulations adopted thereunder is not possible; or

(2) the state or political subdivision requirement is an obstacle to the accomplishment and execution of the Hazardous Materials Transportation Act, as amended, or its regulations.

Since 1977, the United States Department of Transportation has issued over 32 inconsistency rulings (with the Hazardous Materials Transportation Act, as amended, these become preemption determinations) concerning regulations of municipalities, county governments, states, and other government agencies such as bridge, tunnel and turnpike authorities.

Notwithstanding the preemption of a state or local requirement, the Hazardous Materials Transportation Act, as amended, provides that the United States Department of Transportation may waive preemption upon a showing by the jurisdiction that its requirements afford an equal or greater level of protection to the public than is afforded by the federal requirements and its requirements do not unreasonably burden commerce.

The Federal highway routing preemption "General Rule" in Section 105 of the Hazardous Materials Transportation Act (49 United States Code app. 1804), as amended by Section 4 of the Hazardous Materials Transportation Uniform Safety Act, states that no state may establish, maintain, or enforce:

(1) any highway route designation over which hazardous materials may or may not be transported by motor vehicle, or

(2) any limitation or requirement with respect to such routing, unless such designation, limitation, or requirement is made in accordance with the procedural requirements of the Federal Standards and complies with the substantive requirements of the Federal Standards.

Regarding California's requirements for hazardous materials transportation, concern for the proper disposal and transportation of hazardous waste led to enactment of Section 31303, California Vehicle Code in 1984. This section established the general routing requirement of using the most direct route utilizing State or interstate highways wherever possible. This section also included a mechanism for the California Highway Patrol to prohibit hazardous waste transportation on designated highways when a safer alternative could be established using specific guidelines set forth in Section 31304.

Effective January 1, 1987, Section 31303, California Vehicle Code was amended to require all vehicles that are required to be placarded or marked in accordance with Section 27903, California Vehicle Code (other than those subject to more specific requirements such as certain shipments of explosives, inhalation hazards and radioactive materials) to comply with the general routing requirements. Further, the route selection criteria was changed to require use of interstate or state highways offering the least overall transit time whenever practicable.

OVERVIEW OF FEDERAL AND STATE ROUTING REQUIREMENTS FOR HIGHWAY ROUTE CONTROLLED QUANTITY SHIPMENTS OF RADIOACTIVE MATERIALS

The United States Department of Transportation has established specific highway routing requirements for highway route controlled quantity shipments of radioactive materials. These requirements are codified in Title 49, Code of Federal Regulations, Section 177.825(b), which states:

(b) . . . a carrier or any person operating a motor vehicle containing a highway route controlled quantity of radioactive materials . . . shall operate the motor vehicle only over preferred routes . . . selected . . . to reduce time in transit . . .

(1) A preferred route is either or both an Interstate System highway for which an alternative route is not designated by a State routing agency . . . or a State designated route selected by a State routing agency . . . in accordance with the following conditions:

(i) The State routing agency shall select routes to minimize radiological risk using "Guidelines for selecting Preferred

Highway Routes for Highway Route Controlled Quantity Shipments of Class 7 Radioactive Materials," or an equivalent routing analysis which adequately considers overall risk to the public . . .

(ii) State routing agencies may designate preferred routes as an alternative to, or in addition to, one or more Interstate System highways . . .

Title 49, Code of Federal Regulations, Section 177.825(b), provides authority for a state routing agency to "designate preferred routes as an alternative to, or in addition to, one or more Interstate System highways" for the transportation of highway route controlled quantity shipments of radioactive materials. In addition, designations of preferred routes must be proceeded by substantive consultation with affected local jurisdictions and with any other affected states to ensure consideration of all impacts and continuity of designated routes.

Title 49, Code of Federal Regulations, Section 177.825(b)(2), provides conditions when motor vehicles may be operated over a route, other than a preferred route while transporting highway route controlled quantity shipments of radioactive materials. Deviation from the preferred route may occur for the following:

- necessary pickup and delivery
- necessary rest, fuel or motor vehicle repair stops
- emergency conditions make continued use of the preferred route unsafe or impossible.

The responsibility for highway routing of hazardous materials, including Class 7 radioactive materials and the related preemption determination and waiver of preemption procedures, has been delegated by the Secretary of Transportation to the Federal Highway Administration. The Federal Highway Administration incorporated, without substantive change, Research and Special Programs Administration's regulations in Title 49, Code of Federal Regulation, Sections 107.201 to 102.227, and 177.825 into the Federal Highway's regulations in Title 49, Code of Federal Regulation, Part 397, subpart D and E, respectively.

Section 33000, California Vehicle Code requires the California Highway Patrol to adopt regulations designating routes for the transportation of highway route controlled quantity shipments of radioactive materials.

STUDIES/RELATED FACTS

1. Risk Assessment Methodology

The route risk assessments were conducted with consideration of existing federal and State routing requirements and in compliance with the United States Department of Transportation, Research and Special Programs Administration, "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials" (DOT/RSPA/HMS/92-02), hereinafter referred to as the federal guidelines. Documentation of the methodology employed is contained in the California Highway Patrol's "Radioactive Materials Transportation Routing Study - Designation of Routes for the Through Transportation of Highway Route Controlled Quantity Shipments of Radioactive Materials."

- **Federal Routing Guidelines:**

  Primary Risk Factors - Federal guidelines emphasize that the route selection should be based on the risk which is associated with the radiological nature of the cargo. This approach results in the selection of routes that minimize the total impact associated with normal exposure and the potential consequences of an accidental release of radioactive materials. Consequently, the following are considered by the federal guidelines to be the primary route comparison factors:

  - Normal radiation exposure - Shipping packages containing radioactive materials emit radiation during transport. Sufficient shielding must be contained in the package to reduce this radiation to safe levels as specified in Department of Transportation regulations. Exposure could vary significantly among available routes and should be considered during route selection.

  - Public health risks from accidents - Highway route controlled quantity shipments contain amounts of radioactive materials that are potentially harmful to the public if released. For this reason, these materials may only be transported in shipping packages (approved by the United States Department of Transportation, the United States Department of Energy, or the Nuclear Regulatory Commission) designed to isolate the materials from the public, even in severe transportation accidents.

  - Economic risk from accidents - A very severe transportation accident could also result in contamination of nearby property. The frequency of severe transportation accidents which could cause contamination must also be considered during route selection.

Secondary Risk Factors - Factors that are considered secondary to the basic goal of minimizing the radiological risk from transportation are identified below. These secondary factors may be considered if the route analysis reveals that alternative routes have essentially the same level of risk based on the three primary factors.

- Emergency response capabilities - If a severe transportation accident results in radioactive material being released from the shipping package, actions by emergency response personnel can mitigate the potential consequences from the release. These factors could vary significantly among available routes.

- Evacuation - One method of mitigating the consequences of a radioactive material release is to evacuate those who could potentially be exposed to the material. The time and effort required to evacuate a segment of the population may vary among the available routes. Evacuation is often ordered as a precautionary measure if an accident occurs, even if a release has not been confirmed. Evacuation has economic impacts which may also be considered in comparing available routes.

- Location of special facilities - Some private and public facilities along transportation routes contain populations requiring special consideration when analyzing the potential effects of accidental releases of radioactive materials or exposure during transport. The number and type of such facilities (i.e. stadiums, schools and hospitals, etc.), provide a basis for comparing alternative routes.

- Traffic fatalities and injuries - Trucks carrying radioactive materials may be involved in traffic accidents, just like other vehicles. Routes that minimize these accidents would be preferred.

The "primary" route risk comparison factors formed the basis for route selection. The secondary factors were not used because clear-cut choices emerged from the evaluation of the primary factors.

- **Additional Routing Considerations:**

The California Highway Patrol contemplated additional routing considerations such as physical constraints of roadways; inadequate shoulders, turning radius for commercial vehicle traffic; and height, weight, and/or width restrictions. Legal constraints for consideration include factors such as bridges, tunnels, toll crossings, or highways restricted to the through transportation of

hazardous materials/waste by administrative action pursuant to Section 31304, California Vehicle Code.

Time of day and day of week considerations are deferred to federal regulation currently found in Title 49. Code of Federal Regulations, Section 177.825(b)(2).

2. **Survey: Highway Route Controlled Quantity Shipments of Radioactive Materials Transportation**

- **Purpose**

To conduct the comparative risk analyses necessary to evaluate alternate routes, it was necessary to identify common points of origin and destination for highway route controlled quantity shipments of radioactive materials. No such database or flow study existed that identified these points in California.

All facilities using radioactive materials, except those exclusively licensed by the Nuclear Regulatory Commission, are required to be licensed by the California Department of Health Services. The California Department of Health Services issues a Radioactive Materials License to those qualified facilities. The California Highway Patrol obtained a mailing list for 2,253 radioactive materials licensees[1] and mailed a survey questionnaire to each licensee. The survey requested the licensee to answer six questions relating to the transportation of highway route controlled quantity shipments of radioactive materials. The questions were as follows:

1. Identify by name, any highway route controlled quantity shipments of radioactive materials transported or received.

2. Provide an annual estimate of highway route controlled quantity shipments, by name, transported or received.

3. Identify the nearest major highway intersection to your facility.

4. If highway route controlled quantity shipments leave your facility, identify the nearest major highway intersection to the shipment destination. If the shipment leaves California, identify the highway used.

5. Provide the name(s) and address for each carrier that transports or delivers highway route controlled quantity shipments to/from your

[1]Licensees as of March 1993

facility.

6. Identify the time of day and day of week your facility sends and/or receives highway route controlled quantity shipments.

- **Survey Results:**

  The Hazardous Material Section received approximately 300 telephone calls and 130 completed questionnaires. Of the total responses received, seven licensees indicated they transported or received highway route controlled quantity shipments of radioactive materials.

  The survey responses identified seven origin and destination points in California. Additional origin and destination points were identified through contacts with the California Department of Health Services, the Nuclear Regulatory Commission, the United States Department of Energy, and the Federal Highway Administration.

3. **Interested Party Mailing List**

Fifty-three licensees completing the "Highway Route Controlled Quantity Shipments of Radioactive Materials Survey" requested to be included on an interested party mailing list. The mailing list was further expanded to include: consultative meeting invitees; administering agencies; local emergency responders along the proposed routes; California Department of Transportation Districts; State Regional Offices of Emergency Services; and other interested government agencies and private parties requesting information.

4. **HazTrans®**

To complete the required route risk assessments on approximately 2,434 miles of California highways (Interstate routes), the California Highway Patrol used HazTrans®, a computer based route risk assessment program developed by Abkowitz and Associates, Inc. in association with Vanderbilt University. The California Highway Patrol entered into a contract with Abkowitz and Associates, Inc. in 1989 to provide a California specific version of this software. The routing methodology incorporated into the HazTrans® program exceeds the criteria established in the federal guidelines.

The HazTrans® contract includes the maintenance of this California unique database. HazTrans® allows for conducting route risk assessments with consideration of the following routing criteria: population exposure, distance, travel time, accident

likelihood, risk and radiological risk.

HazTrans® provides the State of California with a flexible and easy-to-use, yet comprehensive tool for evaluating risks and selecting preferred routes associated with the transportation of highway route controlled quantity shipments of radioactive material. HazTrans® consists of two major components, a mapping system and an analysis methodology, which are fully integrated.

- **HazTrans® Databases/Sources**

  The databases contained in the California version of HazTrans® were derived from the most current sources available. The following provides a description of the California specific data that was used in completing the required route risk assessments:

  Road Network - In addition to using the HazTrans® national road network for California, other segments have been included in the California system so that all Interstates, United States Routes, State Routes, and selected major county roads in the State of California are contained in the network, as well as points-of-entry from major routes of those states located adjacent to California.

  Accident Rates and Accident Likelihood - Accident rates were derived from the California Department of Transportation, 1989 Route Segment Report, Volume 2. In that document, vehicle accident rates for each California highway segment are reported as a three-year historical average. This methodologically is desirable because it tends to smooth the effects of an unusual accident reporting year. These accident rates combine the likelihood of an accident with the likelihood of a release of the hazardous cargo given that an accident has occurred. Obviously, not all accidents will result in a release so the release-causing accident rate will be somewhat lower than the vehicular accident rate. If truck accident rates were unavailable then accident rates were derived from those developed by the Federal Highway Administration for the different functional classifications that appear in the United States roadway network.

  Travel Time - Travel times, also derived from the California Department of Transportation, 1989 Route Segment Report, Volume 2, are based on observed (rather than posted) operating speeds, and are converted to travel time based on the segment length.

  Segment Population - Exposure values were determined by overlaying the "block level" population statistics from the 1990 United States Census onto the transportation networks and determining the population residing within

each of the pre-defined bandwidths. The "block level" data is the most detailed population data available in a geographically referenced format.

Risk - The criteria for determining relative risk is defined by the federal routing criteria guidelines as:

$$RISK_{route} = \sum_{l=1}^{L} [P(Accident)_l \cdot P(Release) \cdot Consequence_l^{Risk\ Preference}]$$

where ***L*** is the number of segments (or links) in the route, ***P(Accident)***$_l$ is the accident likelihood along segment ***l***, ***P(Release)*** is the likelihood that an accident will result in a release, ***Consequence***$_l$ is the expected consequences of a release along segment ***l***. Beyond representing the Federal definition of risk, HazTrans® risk models can also distinguish between technical and perceived risk. ***Risk Preference*** is used to represent the differences between public perception and technical judgement.

Radiological Risks - The risks associated with normal transport exposure and the public health risk involved with radioactive material shipments are used to calculate a relative radiological risk index.

- Normal Transport Exposure - Federal routing guidelines suggest that radiological risk associated with the normal transport of radioactive materials be computed by:

D	=	Dose to persons residing along the route	+	Dose to passengers in other vehicles	+	Dose to Truck crew	+	Dose to people at truck stops

Upon review of the California Highway Patrol "Risk Assessments for Transportation of Radioactive Materials on California's Highways (1989)" the "dose to passengers in other vehicles" component of the risk equation was found to zero out. HazTrans® computes the normal transport exposure risk as follows:

D	=	Dose to persons residing along the route	+	Dose to Truck crew	+	Dose to people at truck stops

In this calculation, HazTrans® used the length of the route, average speed of the vehicle along the route, and the average population density (in people per square mile within a five mile bandwidth) along the route.

- Public Health Risk - The frequency of release-causing accidents and

the consequences of such a release are the criteria used to calculate the relative public health risk.

Public Health Risk	=	Frequency of Accident	x	Consequence measure

Consequence as defined by the federal routing guidelines are a measure of the exposed population computed by:

For rural segments:

Consequence measure	=	Population per square mile for a 0 to 5 mile bandwidth	x .75	+	Population per square mile for a 5 to 10 mile bandwidth	x .25

For urban segments:

Consequence measure	=	Population per square mile for a 0 to 5 mile bandwidth	x 1.00

Normalized values of the normal transport exposure and public health risk are equally weighted to determine the radiological risk as follows:

Radiological Risk	=	Normal transport exposure risk bandwidth	x .5	+	Public health risk	x .5

Emergency response - This information is currently identified in the HazTrans® system in terms of response times from California Highway Patrol field offices to destinations along the proposed routes within the field office's jurisdiction.

Routing analyses were conducted with consideration of both overall radiological risk factors and travel time. Routes with physical or legal constraints were eliminated from consideration. Special attention was given to the correlation between population exposure and realistic travel times for commerce. Each route analysis was conducted independently, examining each route alternate for the route offering an acceptable balance between least radiological risk and transit time. When the route HazTrans® selected to maximize least radiological risk was different from the route selected to maximize travel time, the route maximizing overall radiological risk reduction was selected.

Review, verification and validation of the route risk assessment methodology and analyses was conducted by Abkowitz and Associates, Inc.

5. **Consultative Meeting: Highway Route Controlled Quantity Shipments of Radioactive Materials**

To assist with the implementation process requirements and provide a forum for the consultation suggested by the federal guidelines, a consultative meeting was held in August 1993. Representatives from the following organizations were invited to attend: radioactive material manufacturers and transporters, California health physicists, engineers and scientists, local government organizations, an environmental group, the California Department of Health Services, the California Department of Transportation, Governor's Office of Emergency Services, Office of the State Fire Marshall, Federal Highway Administration, United States Department of Energy, Nuclear Regulatory Commission, Abkowitz and Associates, Inc., representatives from adjoining states, and additional interested parties.

The purpose of the consultative meeting was two-fold:

(1) To encourage open communication and support for the development of routes by involving government, industry and environmental community in the implementation process, and

(2) To consult with government, industry and the environmental community to gain information necessary for the formulation of regulations and the designation of routes.

6. **Environmental Impact Analysis**

Environmental concerns were addressed as part of the Department's routing study.

The California Highway Patrol is proposing to adopt regulations to designate routes for the through transportation of highway route controlled quantity shipments of radioactive materials. The federal government has established all interstate highways as approved routes. The Department of California Highway Patrol is proposing to designate only those routes necessary for through transportation. The proposed regulations involve no expansion of the current preferred routing system for the transportation of highway route controlled quantity shipments of radioactive materials.

In fact, the proposed routes for the through transportation of highway route controlled quantity shipments of radioactive materials will not create additional environmental hazards, but will mitigate and reduce risks already in existence. The Hazardous Materials Transportation Act, as amended, provides the federal

government authority to designate routes for both inter- and intra-state transportation of hazardous materials. In the absence of specific state designated routes, transporters are required by federal regulations to use interstate highways. The adoption of these routes will cause no overall increase in highway route controlled quantity shipments of radioactive materials traffic. These regulations will actually prohibit highway route controlled quantity shipments of radioactive materials from routes which are not as safe as those in this proposed regulatory action.

The California Environmental Quality Act requires consideration of physical effects on the environment for actions such as the adoption of these proposed regulations. The California Highway Patrol has conducted an environmental review according to the California Environmental Quality Act and has determined that the proposed regulations meet the requirements for a categorical exemption under Class 1, Section 15301; and Class 8, Section 15308. In light of the above, the Department proposes to file an exemption upon Departmental approval of this regulatory package. The Department's primary environmental consideration has been consistent with the intent of the federal guidelines, i.e. preservation of human life. Additionally, environmental factors were given appropriate consideration during this proposed regulatory action.

7. **Background Material**

Documentation of the methodology employed in selecting the routes is contained in the California Highway Patrol's "Radioactive Materials Transportation Routing Study - Designation of Routes for the Through Transportation of Highway Route Controlled Quantity Shipments of Radioactive Materials." A copy is contained in the rulemaking file.

LOCAL MANDATE

These regulations do not impose a new mandate on local agencies or school districts.

PUBLIC HEARINGS

No public hearings were requested during the public written comment period. Although not legally required, the California Highway Patrol held four public hearings in order to further facilitate public involvement in this proposed regulatory action. The public hearings were advertised in 21 newspapers in affected areas Statewide. The dates and locations of the four public hearings were as follows:

June 15, 1994	Los Angeles
June 16, 1994	San Diego
June 21, 1994	Sacramento
June 23, 1994	Oakland

Attendance was minimal and no oral comments were presented. One written comment was received for the Sacramento hearing from a person who was unable to attend.

PUBLIC/WRITTEN COMMENTS

The California Highway Patrol received six written responses to the January 28, 1994, Notice of Proposed Regulatory Action and one written comment during the public hearing phase. These comments relate to the designation of routes for the through transportation of highway route controlled quantity shipments of radioactive materials. There have been no modifications to this proposed regulatory action based on the written comments received. Summaries of the seven written comments, discussions and responses follow. Similar issues within each written comment were grouped together and addressed **collectively** where possible, to assist the reader.

Written Comment #1

- Inclusion of Interstate 905 as a Preferred Route

  There is no current established or demonstrated need to designate Interstate 905. State and Federal Highway Administration records reflect no highway route controlled quantity shipments of radioactive materials traveling between California and Mexico.

  Consultation with the California Department of Transportation District 11 revealed Interstate 905 is still in the planning stages and is not expected to be complete until at least the year 2000. The temporary route now being used for the proposed Interstate 905 is a combination of two State Route 905 segments and a county road. The California Highway Patrol may evaluate Interstate 905 for preferred route status after its completion. To designate a route with no established or demonstrated need would circumvent the intent of this rulemaking effort, i.e. to enhance public safety.

Written Comment #2

- According to the proposal, some shipments will have a California Highway Patrol escort, however, the California Highway Patrol will not be routinely notified in all cases of transportation by the shipper.

- The California Highway Patrol is not required to make notifications to any law enforcement agency within whose area the shipment traverses.

- While the proposal indicates that the shipments will be in Class "B" containers, which have the highest standards, none have been subjected to tons of falling

concrete from a freeway overpass during an earthquake.

- A recommendation that highway route controlled quantity shipments of radioactive materials be subject to the same advanced notification requirements as rocket fuel components covered under Section 32050 CVC.

  Escorting, notification, United States Department of Transportation packaging requirements and advanced notification for highway route controlled quantity shipments of radioactive materials is not within the scope of this proposed regulatory action.

Written Comment #3

- We anticipate the need for future consultation with you and other state entities, as well as interested parties, in the exploration of a shorter route between Lawrence Livermore National Laboratory and the Nevada Test Site.

  The California Highway Patrol will review the preferred route system on an annual basis to determine the adequacy of designated routes with established or demonstrated need. During these reviews, potential modifications to the preferred route system will be examined and consultation with affected jurisdictions will occur.

Written Comment #4

- Only Interstate routes are currently being proposed. Is this because only the existing controlled quantity shipments of radioactive materials are being considered?

  The proposed preferred route system for California is based on established or demonstrated need to provide a through transportation highway network.

- Future Shipments should be considered, such as, the potential shipments to Yucca Mountain if it is designated as a repository.

- There is a strong possibility that Yucca Mountain will be designated as an interim repository until the site assessment studies are completed. There is concern State Route 127 will be designated without adequate consideration to assessing the potential impacts, the route's geometric/structural adequacy, its accident situations, etc. These studies should be occurring now since environmental, programming and funding requirements take 5 to 10 years to complete once improvement projects have been identified.

- What is the California Highway Patrol's position in accessing, mitigating and monitoring potential impacts to the State Highway System?

- We certainly hope that the CHP would not designate State routes without assuring to their physical adequacy, and that the potential impacts are mitigated by the contributor/developer.

- Federal actions are being considered that may impact the designation of "through" routes in California. The California Desert Protection Act Senate Bill 21 will establish approximately 80 wilderness areas in Inyo, Kern, San Bernardino, Riverside, and Imperials counties, and may impact access to roadways adjoining these wilderness areas. Another proposed action in the Fort Irwin expansion which has a potential to impact Interstate routes and State highways in San Bernardino and Inyo counties. These potential actions should be considered and their impacts, conflicts, mitigations, and conditions need to be dovetailed into the process for the selecting routes.

  Based on discussions with the U.S. Department of Energy, the projected completion date for the Yucca Mountain facility is approximately 2010, if there are no delays. There is no current established or demonstrated need to designate State Route 127 as a preferred route. The California Highway Patrol will review the preferred route system on an annual basis. During these reviews, monitoring, assessing and mitigating potential impacts to the preferred route system will be examined and consultation with affected jurisdictions will occur. If a proposed or existing preferred route is found to be inadequate, that route will not become part of or may be deleted from the preferred route system in California. Conversely, if an established or demonstrated need for a new route exists, the California Highway Patrol will propose a new route be added to the preferred route system.

Written Comment #5

- Determination that the proposed regulations meet the requirements for a California Environmental Quality Act categorical exemption under Class 1, Section 15301 and Class 8, Section 15308 is inappropriate.

  According to the State Office of Planning and Research, State Office of General Services and the Department of California Highway Patrol, the Class 1, Section 15301 and Class 8, Section 15308 California Environmental Quality Act exemptions are applicable and proper. This issue will be addressed more specifically in the following comments.

- Class 1 (Section 15301) exemption applies to "the operation, repair, maintenance, or

minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that previously existing..." .

Section 15301 continues on to state, "included but not limited to: . . . Existing highways and streets, sidewalks, gutters, bicycle and pedestrian trails, and similar facilities except where the activity will involve removal of a scenic resource including a stand of trees. . .

The proposed preferred route network is made up entirely of existing interstate highways. There will be no alteration to these structures as a result of preferred route designations by the California Highway Patrol.

There is no projected expansion of highway system use beyond that which previously existed. According to Federal Highway Administration records over the past five years, there is an average of nine (9) highway route controlled quantity shipments of radioactive materials which travel California's highways annually. The proposed routing network restricts these shipments to preferred routes with the lowest overall risk.

- The designation process of a statewide system goes well beyond the concept in this exemption to be construed as "minor alteration" or "negligible" expansion of the existing use.

  This exemption applies specifically to existing facilities. This exemption does not limit the size of those existing facilities. The proposed preferred route network submitted by the California Highway Patrol is made up entirely of existing facilities.

- There is no evidence that the existing Interstate System within California is a "previously existing" transportation system for nuclear waste shipments. Although the Interstate Highway System is and was used to transport nuclear waste, the current process under review is for the State of California to officially designate a route system. An ad hoc system of routing, as currently exists, does not constitute an existing system within the meaning of Section 15301.

- While it might be argued that the Interstate system is an existing system, the designation of specific routes expands the existing use by directing shipments to routes being considered for designation. This action will concentrate shipments onto the designate route while eliminating from consideration other, perhaps, more appropriate routes.

  There is no question the interstate highway system in California is the preferred route network for the through transportation of highway route controlled

quantity shipments of radioactive materials. This fact is clearly stated in Title 49 Code of Federal Regulations, Part 177, Section 177.825 and Part 397, Section 397.101 which states, " A preferred route is either or both an Interstate System highway for which an alternative route is not designated by a State routing agency as provided in this section, or a State designated route selected by a State routing agency . . . The State routing agency shall select routes to minimize radiological risk using "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipment of Radioactive Materials," or an equivalent routing analysis which adequately considers overall risk the public. . ."

The California Highway Patrol performed a comparative analysis of the entire Interstate Highway system in California using the HazTrans® route risk assessment computer software program. This program was written specifically for the State of California by Abkowitz and Associates Inc. Abkowitz and Associates Inc. is a nationally recognized risk management firm based in Nashville, Tennessee. The methodology, analysis and routes chosen are in complete compliance with federal regulations and guidelines.

This proposed regulatory action does not expand the existing use of, or concentrate shipments onto the highways chosen because the highways chosen are already federally designated preferred routes and are presently being used for the transportation of highway route controlled quantity shipments of radioactive materials in California.

- Class 8 Section 15308 exemption applies to the "actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment." The appellate court has determined that a California public agency has abused its discretion by designating or adopting projects without undertaking adequate environmental review. The court cited the "State CEQA Guidelines" which provide that "[a] categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances." There is no evidence presented by CHP that the designation process will not result in unusual circumstances (i.e. highway accidents involving the transportation of radioactive waste) as a result of the designation process.

- The routing study performed by the California Highway Patrol has not reduced the available Interstate highway routes, because it has not done the required analysis of the Interstate highway segments purportedly eliminated from use. "Interstate connecting the points being considered may be included in the analysis in cases where it is desired to remove the preferred status from a segment of the Interstate system. Such a removal can only be done if the comparative analysis shows that

there is an alternative route that results in lower overall impacts. from highway route controlled quantity shipments than the available Interstate route. " [Emphasis added].

- The question of the appropriate level of environmental review under CEQA for the route designation process has been established by the California Attorney General. The Attorney General states "...we conclude that the Department [of the Highway Patrol] is required to prepare an 'environmental assessment' under CEQA before adopting radioactive material transportation routes pursuant to Vehicle Code section 33000." Environmental review guidance to the CHP is clearly provided in the Attorney General's opinion. The Attorney General's direction is as follows:

    1. Prepare an Initial Study to determine if a Negative Declaration or environmental Impact Report is the necessary CEQA document.

    2. If a Negative Declaration is used for this project, it must state why there will be no significant impacts and therefore preclude the preparation of an Environmental Impact Report. The probabilities of transportation accidents involving hazardous radioactive materials must be taken into account in determining whether a Negative Declaration or Environmental Impact Report is to be prepared for the project.

- According to the Attorney General "It is clear that an accident with regard to such transportation may cause 'potentially substantial, adverse changes in physical conditions which exist within the area." A potentially significant environmental effect resulting from this project requires the preparation of an Environmental Impact Report.

Certainly there is no way to accurately predict the future number and severity of collisions involving highway route controlled quantity shipments of radioactive materials. However, similar results can be expected by examining past transportation incidents involving highway route controlled quantity shipments of radioactive materials. In addition, all highway route controlled quantity shipments of radioactive materials are required to be shipped in Type B packaging. Type B packaging is designed to retain the integrity of containment and shielding when subjected to hypothetical accident test conditions as set forth in Title 10 Code of Federal Regulations Part 71. Of all the transportation incidents in the United States involving highway route controlled quantity shipments of radioactive materials over the past 40 years, there has never been a breach of containment or release of radioactive contents.

The California Highway Patrol performed a comparative analysis of the entire Interstate Highway system in California using the HazTrans® route risk assessment computer software program. The comparative analysis resulted in the California Highway Patrol designating only those interstate highways

necessary for the through transportation of highway route controlled quantity shipments of radioactive materials based on established or demonstrated need. It is clearly not the intent of the federal guidelines to require replacement of undesignated interstate highway segments with alternate routes unless there is an established or demonstrated need to do so.

The HazTrans® software includes consideration of accident rates in determining overall risk. The California Highway Patrol has chosen preferred routes with the least risk which further decreases the potential of a transportation incident involving highway route controlled quantity shipments of radioactive materials. The end result of these route designations is the enhanced protection of the public and environment.

The 1983 Attorney General's opinion requires the California Highway Patrol to comply with the California Environmental Quality Act. The California Highway Patrol has fully complied with the California Environmental Quality Act.

Bob Cervantes, Chief, State Office of Planning and Research was contacted regarding the above written comments. It should be noted that the Office of Planning and Research is the state agency which prepares and develops guidelines for the implementation of the California Environmental Quality Act by public agencies. The state Office of Planning and Research includes in these guidelines a list of classes of projects which have been determined not to have a significant effect on the environment and which shall be exempt from the California Environmental Quality Act. Chief Cervantes provided the following reply:

This project (the designation of routes for the through transportation of highway route controlled quantity shipments of radioactive materials) is in full compliance with the California Environmental Quality Act. The California Environmental Quality Act is a reasonable analysis, not a worst case scenario. This project is exempt from the California Environmental Quality Act based on the applicable categorical exemptions. The very fact of a categorical exemption preempts the need or legal requirement of an environmental assessment. "This project is on solid ground".

- The assertion by the California Highway Patrol that the proposed regulations involve no expansion of the current preferred routing system (and therefore no environmental impact) is inaccurate.

The proposed preferred routes submitted by the California Highway Patrol will involve no expansion of the current preferred routing system. This proposed regulatory action will actually consolidate and make safer the preferred routing

system in California. The end result of this proposed regulatory action is enhanced protection of the public and no impact on the environment.

- The California Highway Patrol has considered routes other than Interstate highways, and has even specifically restricted the through transportation of highway route controlled quantities on certain State Routes.

  This comment is inaccurate and misleading. The State Routes restricted under Section 31304 of the California Vehicle Code apply to the through transportation of hazardous materials and hazardous waste near drinking water reservoirs. These state highways were never preferred routes for the through transportation of highway route controlled quantity shipments of radioactive materials.

- Routing decisions are subject to an annual review and reevaluation, which may well lead to the designation of routes not currently available for shipment.

  The California Highway Patrol will review the preferred route system on an annual basis. During these reviews, potential modifications to the preferred route system will be examined. If modifications are proposed, they will be subject to the same reviews and comment periods as this proposed regulatory action.

- Earlier documents specifically included reference to State Route 127 and the likelihood that the required consultation with adjacent states may lead to the selection of State Route 127 for highway route controlled quantities of radioactive materials: "If we were to perform a complete hazard assessment using the DOT methodology on US 95 from NTS south through Las Vegas to I-40 and compared it to the Map 16 route [including SR 127 from 1-15 to Nevada SR 373], it is likely that the MAP 16 route would ultimately prove to be the less hazardous."

  State Route 127 was not chosen by the California Highway Patrol as part of the preferred route system and there was no established or demonstrated need to designate any preferred routes in California other than those currently proposed. The California Highway Patrol continues to work with Nevada and other adjoining states on routing issues of mutual interest. The 1989 draft document referenced as "earlier documents" was not approved by the California Highway Patrol.

  Additionally, Inyo County in the past has expressed concern over the physical condition of State Route 127. In written testimony to the Nuclear Waste Technical Review Board dated November 9, 1990, Inyo County stated "As detailed below, there are several major problems with utilization of State Highway 127 for the transport of high-level nuclear waste. . . California State

Highway 127 is not a typical desert highway. For most of its length, it parallels the Amargosa River, which is the drainage for large portions of eastern California and western Nevada. Most of the year, it is a dry riverbed, but during storms within its drainage basin, it can become a raging torrent within a matter of minutes. Only limited drainage improvements are provided along the highway. During the periodic floods of the Amargosa River, which occur with an average frequency of about once a year, these drainage improvements can accommodate only part of the flood waters. The majority of the flood waters flow as sheet flows over the roadway, often undermining the pavement. . . During the most recent flood which occurred on April 15, 1990, a truck carrying hazardous materials (non-nuclear) was swept off of the roadway. We are fearful of similar occurrences with trucks carrying high-level nuclear waste and nothing has been done to ally our concerns."

- The process used by the California Highway Patrol to select alternate preferred routes does not comply with the federal guidelines.

  This comment is incorrect. The California Highway Patrol is selecting preferred routes not alternate routes. The California Highway Patrol is designating preferred routes in complete compliance with federal regulations and guidelines.

- It is clear that the intent of the federal routing requirements, in making provision for state designated alternate routes, was to allow states to designated routes <u>other than</u> an interstate highway. "...DOT is strongly encouraging the States to examine their own highway network and designate 'preferred routes' to supplement the Federally-prescribed Interstate highway system, or provide suitable alternatives to portions of the Interstate system". The use of the federal guidelines to select a subset of the interstate highway system does not fulfill that intent.

  The federal guidelines in no way prohibit a state from selecting an Interstate highway as a preferred route. "Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials" state, "It is important to emphasize that the guidelines presented in this document do not represent the only method of conducting an adequate routing analysis. Under the regulatory scheme established by the routing requirements, the States are extended considerable flexibility in carrying out the routing function, as exemplified by the following definition found in (Title 49 Code of Federal Regulations) Sec. 171.8":

  > **"State-designated route" means a preferred route selected in accordance with U.S. DOT Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials or an equivalent routing analysis which adequately considers overall risk**

to the public (emphasis added) . . .

The California Highway Patrol contacted Ms. Pamela Deadrick, Transportation Specialist, Hazardous Materials Routing and Special Projects for the Federal Highway Administration early in the development of this project. Ms. Deadrick oversees state designated routing for the through transportation of highway route controlled quantity shipments of radioactive materials. The California Highway Patrol informed Ms. Deadrick of its intent to designate a restricted Interstate preferred route highway network. Ms. Deadrick has reviewed all documentation produced by this California Highway Patrol for these proposed regulations and stated, "The California Highway Patrol is in complete compliance with federal regulations and guidelines."

- The Federal Hazardous Materials Regulations (49 CFR Parts 171-179) and the Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials both require consultation with local jurisdictions.

- "Designation must have been preceded by substantive consultation with affected local jurisdictions...".

- "In performing a routing analysis, States are required to solicit and consider input from other jurisdictions which are likely to be impacted by a routing decision. This will necessitate coordination with local government authorities along the prospective routes of travel..."

- The methodology [it] should facilitate participation of the public, other State agencies and local jurisdictions in the route selection process and documentation of the decisionmaking process.

- The California Highway Patrol has not consulted with all affected local jurisdictions, or fully informed the public.

- No public hearings on this proposed regulatory action have been held, and none are scheduled.

The California Highway Patrol has adequately consulted with affected local jurisdictions and informed the public. The California Highway Patrol conducted a consultative meeting in August of 1993 attended by a cross section of affected jurisdictions and affected interested parties. In an effort to facilitate participation from the public, State agencies and local jurisdictions the California Highway Patrol mailed the Notice of Proposed Regulatory Action, Initial Statement of Reasons and Proposed Regulations to over 1600 organizations and individuals. These recipients included all Police and Fire

chiefs, all County Board of Supervisors Chairpersons, adjoining States, several federal and state agencies as well as interested parties. The California Highway Patrol has also coordinated this action with representatives from Oregon, Arizona and Nevada.

This entire regulatory process is well documented. Copies of all pertinent documentation were made available throughout the State at all California Highway Patrol Division offices and Headquarters.

Public hearings were held in the cities of San Diego, Los Angeles, San Francisco and Sacramento during the month of June 1994. These hearings were advertised in 21 newspapers located in affected areas statewide.

- Inyo County had requested the opportunity to participate in the route selection process and to be advised of additional California Highway Patrol activities. This request was acknowledged by the California Highway Patrol on February 25, 1993. Inyo County was not informed of the single consultative meeting held in August 1993 by the California Highway Patrol, although the California Highway Patrol described the invited attendees as including "any additional interested parties"

  Paragraph two of the California Highway Patrol letter referenced states "Inyo County is on our Department's mailing list for this project. Additionally, the CHP will contact your Department if Inyo County is likely to be impacted by a routing decision with respect the highway transportation of specified radioactive materials." Inyo County was not impacted by this proposed regulatory action and is therefore not an affected jurisdiction.

  The statement "any additional interested parties" quoted from the Initial Statement of Reasons (page 14) was in error. This statement should read the same as <u>State of California Radioactive Materials Transportation Routing Study</u> (page 2-12) "and additional interested parties."

- In order to make comprehensive comments to the proposed regulatory action, Inyo County requested a copy of the <u>California Radioactive Materials Transportation Routing Study</u>. The Patrol declined to send a copy of the Study, and instead advised the County that a copy was available for viewing in the San Bernardino District Office of the California Highway Patrol (approximately 210 miles away). Fortunately, the County was able to receive a copy from Clark County, Nevada in order to complete the review of this proposed regulatory action.

  The California Highway Patrol mailed a five page "Notice of Proposed Regulatory Action," a sixteen page "Initial Statement of Reasons" and a three page "Proposed Regulations" to over 1600 recipients including the County of Inyo. These three documents provided all the necessary information to make

comprehensive comments for this proposed regulatory action. The "State of California Radioactive Materials Transportation Routing Study, was made available for viewing at each California Highway Patrol Field Division office and Headquarters as a courtesy to interested parties, without any legal requirement to do so.

Dissemination of the "State of California Radioactive Materials Routing Study" to unaffected jurisdictions is not required for this proposed regulatory action.

Written Comment #6

- The report states that "Nevada has not adopted their own preferred route system, therefore, by default the Interstate highway system is the preferred route system. Legally this is true. However, as you know, representatives from the Nevada Department of Transportation (NDOT) had met several times with representatives from the California Highway Patrol regarding a similar study and route designation process being conducted by the state of Nevada.

  Because I-15 goes through the heart of Las Vegas, Nevada is interested in selecting a preferred route to transport Highway Route Control Quality shipments of Radioactive Materials and High Level Radioactive Waste bypassing Las Vegas. Nevada discussed a number of routes in "The Statewide Radioactive Materials Transportation Plan, Phase II" report. Chapter Four, Route Analysis; Section 4.6 and 4.6.1 discusses routing that jointly impacts both California and Nevada. In addition, the Nevada Department of Transportation identified several routes for further study. Several of these routes connect with California SR-127, the Nipton Road and US-95 between I-40 and the California-Nevada Stateline.

  The California Highway Patrol will continue to work cooperatively with the State of Nevada on the designation of through routes for the transportation of highway route controlled quantity shipments of radioactive materials. The California Highway Patrol has found no established or demonstrated need to designate State Route 127 as a preferred route at this time. Additionally, California's Department of Transportation and Inyo County have expressed concern over the physical condition of State Route 127. An established or demonstrated need must exist and the physical condition of State Route 127 must be examined and reconciled prior to any potential future alternate preferred route designation of State Route 127.

- The Nevada Department of Transportation will continue its study and absent California's action on the above routes NDOT will recommend to the State Transportation Board the designation of Nevada SR-160 as the preferred route and to undesignate I-15 between the Utah-Nevada Stateline and Las Vegas as a preferred route. Representatives of the Nevada Department of Transportation have met with

representatives from the State of Utah regarding this action and they agree with the Nevada Department of Transportation. This action will conflict with your Route 4 which designates I-15 within Nevada as a preferred route.

Interstate highway 15 through southern Nevada is the current preferred route for the through transportation of highway route controlled quantity shipments of radioactive materials. If the State of Nevada designates Nevada State Route 160 as a preferred route in the future, the California Highway Patrol does not foresee an impact on California. If in the future the states of Nevada and Utah undesignate interstate 15 as a preferred through route between the Utah border and Las Vegas, this would result in future highway route controlled quantity shipments of radioactive materials having to use another preferred route such as interstate 40 or 80 to bypass or traverse Nevada. The California Highway Patrol will review the preferred route system on an annual basis. During these reviews, potential modifications to the preferred route system will be examined. If modifications are proposed, federal routing guidelines will apply and any proposed modifications will be subject to the same route risk assessment, review, consultation and comment periods as this proposed regulatory action.

- The designation of Nevada SR-160 and I-15 between Las Vegas and the Nevada-California Stateline would route all shipments of Route Control Quantity Shipments of Radioactive Materials between the Nevada Test Site (NTS) on I-15 southbound and I-40 eastbound.

California Highway Patrol and Federal Highway Administration records show shipments of radioactive materials in highway route controlled amounts have not traveled between California and Nevada in the past five years. Consultation with Gary Callihan, U.S. Department of Energy, Oakland Operations Office, Hazardous Materials Transportation Manager, indicated there are no plans to ship highway route controlled quantity shipments of radioactive materials between California and Nevada in the near future. The California Highway Patrol realizes when a final repository for the high level radioactive waste opens, an increase in highway route controlled quantity shipments from the Nevada Test Site may occur. However, there are no immediate plans to open a repository, per the U.S. Department of Energy.

The California Highway Patrol will review the preferred route system on an annual basis. Potential modifications to the preferred route system will be examined. If modifications are proposed, they will be subject to the same review and public comment periods as these proposed regulations.

The California Highway Patrol will continue to maintain open communication and consultation with Nevada, Arizona and Oregon regarding potential preferred route modifications.

Written Comment #7

- Articles of the Geneva Convention (1962) require military support for the transportation of radioactive materials.

  Military support for the transportation of radioactive materials shipments is not within the scope of this proposed regulatory action.

- Nuclear devices of all types are against the law in California because they do no good for anyone.

  There is no law or regulation which prohibits all types of nuclear devices in California. Radioactive materials are used in a variety of devices for applications such as measuring the moisture in soil, sterilization of medical supplies and cancer treatment.

IMPACT ON SMALL BUSINESS

For purposes of these regulations, small businesses are not singled out, or identified, from large businesses. These regulations affect all transporters of Highway Route Controlled Quantity Shipments of Radioactive Materials and it is assumed that both small and large businesses are included in this group. Therefore, The Department has not identified any significant impact on small business.

ALTERNATIVES

The California Highway Patrol has not identified any alternative that would be more effective in carrying out the purpose for which this action is proposed or would be as effective and less burdensome to affected persons than the proposed action.

ECONOMIC IMPACT

The Department has determined that these regulations will result in:

- No significant compliance costs for persons or businesses directly affected.

- No discernible impact on the level and distribution of costs and prices for large and small businesses.

- No impact on the level of employment in the State.

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