Coastal Resources Management Council

Findings And Policies

1978 AMENDMENTS: Energy

As Amended on February 23rd, 1982

Chapter

6

Energy

610.1 Planning for Energy Facilities

610.1-1 FINDINGS:

Passage of the 1976 energy facility planning amendments (Section 305 (b) (8)), to the Federal Coastal Zone Management Act and subsequent promulgation of regulations (Federal Register,

DRAFT

~~Volume 42, No. 83) under this section has placed substantial additional energy-related planning burdens on states such as Rhode Island which are in the process of developing coastal management programs. More specifically, N.O.A.A. regulations now require the state to:~~

~~Identify energy facilities which are likely to locate in or which may affect the coastal region.~~

~~Develop a procedure for assessing the suitability of sites for such facilities.~~

~~Develop policies and techniques for managing energy facilities and their impacts.~~

~~Develop cooperative and coordinating arrangements between the Council and other agencies involved in energy facility planning and siting.~~

~~Identify legal techniques to be used in managing energy facility siting and related impacts.~~

~~In order to implement N.O.A.A. requirements to identify energy facilities likely to be located in or affect the coastal region (920.18 (a) (1), the Council finds a need for the state to independently assess existing demand projections for electric power consumption.~~

~~It is on the basis of such projections that power plants which may be located in or affect Rhode Island's coastal region will be proposed.~~

~~Historic patterns of growth in electric power consumption upon which existing facility development plans are predicated, have declined dramatically in recent years (see Table 6-1).~~

~~The Council does not find that this decline has been adequately reflected in existing demand assessments.~~

~~The reasons for this decline remain unclear and until such reasons are better understood it will not be possible to project with confidence either future demand or related plant construction requirements.~~

DRAFT

RHODE ISLAND ELECTRICITY CONSUMPTION TABLE 6-1

Consumption (Trillons of BTU'S) (3413 BTU'S per KWH)	Annual Rate of Growth (Per Cent)
1971 14.3	7.5
1972 15.3	6.9
1973 16.4	7.1
1974 15.5	-5.4
1975 15.1	-2.5
1976 16.5	9.2

Sources: 1971-1974, Electric Council, STATISTICAL BULLETIN, 1974.
1975, Annual reports submitted to Public Utilities Commission by each company. 1976, New England Power Company.

In enacting these new planning requirements the Congress expressly recognized and provided for the additional burdens, both temporary and financial, they placed on the states.

Planning monies were made available for the specific purpose of undertaking energy facility planning efforts.

The deadline for completing energy related planning and program development efforts under the Federal Coastal Zone Management Act, was extended to September 30th, 1978.

610.1-2 PLANNING POLICIES:

In order to effectively implement the various energy facility planning requirements (920.18) of N.O.A.A. regulations promulgated on April 29th, 1977, the Council finds that the state should undertake assessments or establish procedures for assessing the following topics by September 30th, 1978:

An assessment of OCS oil and gas related facility siting, including onshore support services, fuel transfer, storage and processing facilities, if any.

An assessment of "native" energy sources including coal, wood, wind, water, solar, solid waste, geothermal and energy conservation.

An evaluation of the regional context of energy production and distribution as it affects instate production and facility development requirements.

An evaluation of long term petroleum related transportation and storage requirements and opportunities.

5. An assessment of long term electrical power requirements and optional generating technologies with particular attention to such demand variables as changing life styles, income, rate base, intermediate, peak and reserve generating requirements, and such social considerations as the relative consequences of supply deficiencies and surpluses.

An assessment of optional "mixes" of energy sources including OCS oil and gas, native sources and electrical generating techniques including total energy systems and co-generation with particular emphasis on the flexibility, reliability and environmental impacts of such sources and techniques.

Development of detailed data on the siting requirements and related and/or operational impacts of specific facility types.

Development of additional and/or refinement of existing Council Policies and Regulations relating to facility siting and operation pursuant to plan and program development responsibilities set forth under Title 46, Chapter 23, Section 6 of the General Laws.

~~Development of specific coordinating and cooperative arrangements between the Council as the state's principal fact finder for nuclear power plant and oil refinery siting and the General Assembly as the final permitting body for such siting decisions.~~

~~Development of additional arrangements to ensure consistent and cooperative planning and regulation by all units and levels of government.~~

~~Assessment of techniques to reduce the demands for energy.~~

~~610.2 Siting of Energy Facilities~~

~~610.2-1 FINDINGS:~~

~~Facilities for the processing, transfer and storage of petroleum products and the production of electrical power provide services necessary to support and maintain the public welfare and the state's economy.~~

~~Such facilities, whether sited in the coastal region or elsewhere, have a high probability of affecting coastal resources and land uses because of their large size, environmental and aesthetic impacts, and impacts on surrounding land uses and broad development patterns.~~

~~In order therefore, to properly and effectively discharge legislatively delegated responsibilities related to the location, construction, alteration and/or operation of such facilities, the Council finds a need to require in all instances a permit for such location, construction, alteration and/or operation within the State of Rhode Island where there is a reasonable probability of conflict with a Council plan or program, or damage to the coastal environment.~~

~~610.2-2 POLICIES AND REGULATIONS:~~

~~The siting, construction, alteration and/or operation of petroleum processing, transfer or storage facilities and power generating facilities within the State of Rhode Island, shall require a Council permit when there is reasonable probability demonstrated by reliable and probative evidence that the proposal will:~~

~~Conflict with any Council Management Plan or Program.~~

~~Make any area unsuitable for any uses or activities to which it is allocated by a Council Plan or Program, or~~

~~Siginificantly damage the environment of the coastal region.~~
~~Applicants shall be further required to demonstrate by reliable and probative evidence that:~~
~~1.Alternative sites have been considered and rejected for environmental, economic and/or operational reasons.~~

~~Construction and/or operation will be in conformance with all applicable environmental standards, guidelines and objectives.~~

~~Siting will not cause secondary developments that are inconsistent with the State Guide Plan or approved municipal master plans.~~

~~Operation will not degrade aquifers or water bodies utilized for public water supply, and~~

~~Adequate procedures for the safe transport and/or disposal of products, materials and/or wastes hazardous to man or the coastal environment will be taken, including emergency containment and cleanup.~~

~~In the absence of comprehensive statewide energy siting procedures applicants shall also be required to demonstrate that:~~

~~There is a need for the proposed facility, and~~

~~Impacts on public service requirements and in-state employment opportunities have been identified and considered.~~

~~Where on the basis of such evidence and/or demonstrations the Council finds a reasonable probability of noncompliance with any applicable Policy or Regulation, including B and C above, it shall require appropriate modification of or shall deny the application in question.~~

~~Recipients of approved Council permits shall be required to maintain such records as may be necessary to monitor and ensure compliance of facility operations with all applicable Management Policies as set forth above.~~

~~620 ELECTRIC POWER PRODUCTION~~

~~620.0-1 FINDINGS:~~

~~The production of electrical energy whether by combustion of fossil fuels (oil, gas and coal) or nuclear fission involves a host of impacts on the coastal region, it's resources and uses of those resources.~~
~~Impacts are of six principal types:~~
~~. Land use~~
~~. Water quality~~
~~. Air quality~~
~~. Waste disposal related~~
~~. Human health and safety~~
~~. Socio-economic~~

~~Impacts are caused by both construction and operation of generating plants.~~

~~Impacts are extremely variable and dependent on a number of factors unique to specific sites and facility designs. General observations must consequently be weighted with this in mind.~~

~~Siting of power generating plants has major impacts on coastal land use and development patterns.~~

~~Power plants occupy large sites - up to 110 acres for a 1,000 MW oil fired plant and 350 acres for a nuclear plant.~~

~~With their large buildings and tall stacks, power plants are major visual intrusions.~~

~~Transmission rights-of-way may preempt other uses of lands located considerable distances from the plant itself.~~

~~Exclusion and safety zones around nuclear power plants place constraints on surrounding uses and development patterns.~~

~~Power plants require land with prime industrial development characteristics and preclude other industrial uses of such lands.~~

~~Siting of power plants is influenced by the availability of water for transportation and processing purposes, although neither fossil fuel nor nuclear facilities require a waterfront location.~~
~~Construction and operation may have wide ranging impacts on water resources and marine life.~~

~~Construction related impacts on nearby waters are comparable, although frequently of considerably longer duration than those for any major industrial facility. These may include increased runoff and siltation, dredging or filling and runoff of hydrocarbon contaminated liquid wastes.~~

~~Construction of once-through cooling systems may have significant impacts on adjacent water bodies since extensive dredging may be required.~~

~~Water consumption and related impacts during plant operation vary considerably with plant design, especially the design of the cooling system which accounts for most of the water used.~~

~~Cooling and process water taken in and then released to the environment can have several impacts.~~

~~.Heated discharges affect critical biological functions of marine organisms.~~
~~. Chemical antifouling agents are used to prevent corrosion and marine growth in water systems; their cumulative impacts are unknown.~~
~~. Nuclear power stations release radioactive substances such as tritium and ruthenium.~~
~~. Fish may be trapped against water system intake screens and killed. Larvae and plankton are drawn through the entire system where most are killed by pressure changes, abrasion or temperature shock.~~

~~Plant construction and operation result in gaseous and particulate emissions which may affect air quality across a wide area.~~

~~Construction related impacts are comparable to those associated with any large scale construction project. The considerable length of the construction period extends these impacts over a long time frame.~~

~~Fossil fuel plant emissions include such pollutants such as sulphur dioxide, fly ash, nitrogen oxides, volatile hydrocarbons and carbon monoxide.~~

~~Nuclear plant emissions are principally radioactive gases: Krypton, iodine and xenon.~~

~~Operation of fossil fuel powered plants, especially coal fired, generates large quantities of solid waste material. Its disposal may have major impacts on the coastal environment.~~

~~Eighty to ninety-nine percent of the fly ash produced by fossil fuel combustion may be removed by stack "scrubbers" which produce a semi-liquid slurry or sludge. Up to 100,000 tons of this material may be produced annually by a 1,000 MW coal fired plant.~~

~~Generation of electrical power by nuclear fission produces considerably smaller but more toxic amounts of solid waste. Disposal of these highly radioactive wastes in an environmentally acceptable manner presents a number of very serious problems which remain to be resolved. In the absence of such resolution, the production of radioactive wastes represents a major long term environmental and human health hazard.~~

Because nuclear wastes remain radioactive for long periods (most wastes have half- lifes between 1 and 380,000 years) their safe disposal poses numberous problems. The technology for isolating them from the environment for such periods has not yet been developed.

Radioactive wastes are shipped from the generating plant to temporary storage sites by unescorted trucks over public roads. Although protected by shielded casks designed to prevent their release in case of accident, the possibility of such release remains.

The production of electricity by either fossil fuel or nuclear fired plants pose threats to human health and safety. While these can be reduced by use of best available technology and careful management, they cannot be totally removed, and energy production will continue to involve some degree of public risk. Electrical power plants should therefore, only be built on the basis of a real and demonstrated need for their generating output.

620.0-2 POLICIES AND REGULATIONS:

Information available to the Council at this time does not provide an adequate basis for the Council to responsibly and properly evaluate proposals for the siting, construction and operation of electric generating facilities in the state's coastal region (see Section 610.1-1).

In discharging its responsibilities as the General Assembly's principal fact finder for nuclear power plant siting in or affecting the coastal region and its resources. In further discharging its permitting authorities regarding fossil fuel fired generating plants, the Council shall not therefore process applications to construct electrical power generating facilities in or affecting the coastal region until such time as the above referenced evaluations and studies are completed. In no case shall this period extend beyond September 30th, 1978.

The State's and the Council's position on power plant siting pending completion of ongoing energy facility assessments or procedures, shall not be construed as indicating a prejudice or bias as to the conclusions of such assessments or procedures.

~~630 TRANSFER OF PETROLEUM PRODUCTS~~

~~630.1-1 Transportation by Vessel~~

~~630.1-1 FINDINGS:~~

~~The Port of Providence is the major petroleum products distribution center for southern New England.~~

~~7.2 million tons of refined oil, kerosene and gasoline with an estimated value of $651 million were imported in 1975.~~

~~Petroleum related vessel movements (including both tankers and barges) in and out of Narragansett Bay accounted for some 1,000 vessel movements in 1975.~~

~~Accidental groundings, collisions and resultant spills have not caused major environmental damages in Rhode Island. The recent Argo Merchant spill has demonstrated however, that oil spill clean-up technology is not presently capable of controlling major spills in weather conditions that are common offshore. The technology does however, permit the control and clean-up of spills in sheltered waters under most conditions. The environmental impacts of spills can be significant and are of great concern.~~

~~The Council finds that growing traffic in petroleum products poses an increased risk of spills and resultant environmental damage.~~

~~Traffic in liquified hydrocarbons also poses risks to life and property because of their highly flammable nature.~~

~~Regulation of marina commerce in navigable waters is the responsibility of the United States Coast Guard. The Coast Guard is also responsible for developing and enforcing vessel design standards and operational rules, and for enforcing federal laws regarding discharge of oily wastes, prevention, clean-up and mitigation of accidential spills of petroleum products. The Council has taken the following actions in cooperation with the Coast Guard.~~

~~In April 1977 the Council contracted with the University of Rhode Island to implement a program for "finger printing" all petroleum shipments bound for or originating from Rhode Island ports.~~

~~Chemical analysis of stored samples taken from all vessels landing in the state allows for speedy identification of the source of any oil spill in state water. The violator is responsible under existing State and Federal law, for damages resulting from a spill.~~

~~Regulations of the Rhode Island Department of Health prohibiting the discharge of oil or oily wastes into any waters of the state from any vessel are set forth under Title 46, Chapter~~

12 of the General Laws. Rhode Island's water quality criteria (see Table 3-1) under which all discharges are regulated through the Federal Water Pollution Control Act, also prohibit floating oil in any waters of the state.

630.1-2 POLICIES AND REGULATIONS:

All vessels engaged in the transportation of petroleum products in the waters of the state shall comply with all applicable rules and regulations of the Rhode Island Department of Health and the United States Coast Guard, and all provisions of the Federal Water Pollution Control Act.

It shall be the adopted policy of the Council to support the Coast Guard in the following actions: Implementation of an oil spill contingency plan for southern New England in cooperation with appropriate bodies in other states.

Re-evaluation and upgrading of vessel design standards especially as these relate to the prevention and/or mitigation of accidental spills of petroleum products.

Re-evaluation and upgrading of operational rules relating to transport of petroleum products in near shore waters and coastal embankments.

Formulation of standards for crew training and qualification of all vessels including barges utilized in the transport of petroleum products.

630.1-2 Transfer via Pipeline

630.2-1 FINDINGS:

According to the Environmental Impact Statement prepared by the Bureau of Land Management on Georges Bank oil and gas lease sales, Rhode Island's ocean shoreline or that of nearby Massachusetts provide the most likely landfalls for an OCS gas pipeline.

Construction of one or two gas pipelines would begin between five and ten years after the first lease sale and each pipeline would take up to two seasons to complete.

It appears unlikely that oil will be transported from OCS wells to shore through a pipeline and even less likely that OCS oil will be landed by tanker in southern New England. Crude oil, if it exists in exploitable quantities, will most probably be transported outside the region for processing.

There is consequently adequate time to further evaluate issues relative to OCS pipeline construction, routing and landfalls prior to adopting final Council policy and regulations.

Pipeline corridor routing and construction in near shore waters and along the immediate shore front involve a number of environmental issues and may further conflict with other uses of coastal waters and resources.

Much data must be assembled on the physical processes that take place on the ocean floor, especially in shallow near shore waters where bottom processes appear to be most active to ensure that a pipeline will withstand erosion, will be adequately supported and will not cause undesirable changes to the character of the bottom.

Pipelines are of great concern to commercial fishermen since exposed pipe and valves can be snagged by towed fishing gear such as otter trawls and shellfish dredges.
Pipelines may prompt the use of a corridor by fishermen. It is essential that fishermen play an active role in selecting the route for a pipeline and manner in which will be engineered.

Pipelines may also have impacts upon navigation since anchors can snag the line and on surface booster stations (if needed), may be an obstruction to navigation.

The construction of a pipeline will cause short term impacts on the living environment. Route selection, construction timing and methods will require careful assessment to ensure minimal impacts.

A marine pipeline landfall requires a right-of-way approximately 100 feet in width.
A gently sloping shoreline is preferred, but not necessary. The pipeline must be buried to a sufficient depth to avoid seasonal changes in the nearby sea floor. Careful planning and engineering will be required to ensure that any impact on the shoreline will be temporary and/or sufficiently small to be acceptable.

The construction of a pipeline landfall involves intensive short term activity. Proper advanced planning involving wide participation will help to minimize environmental and social impacts.

630.2-2 POLICIES AND REGULATIONS:

The siting and construction of any pipeline in or across the land and/or tidal water bodies of the Rhode Island coastal region shall require a Council permit.

Applicants for such a permit shall demonstrate by a fair preponderance of evidence that the proposed action will not:

Conflict with any Council management plan or progran.

Make any area unsuitable for any uses or activities to which it is allocated by a Council management plan or program, or

Significantly damage the environment of the coastal region.

In addition to those general permit requirements set forth under Section 610.2-2, as above, it shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects related to:

Scheduling and duration of construction relative to recreational, wildlife and fisheries use of affected areas

The degree and nature, if any, of site reclamation proposed. 3.Exposure of the proposed pipelines to hazardous bottom conditions. 4.Impacts on public services and in-state employment.

Vessel to Vessel Transfer

630.3-1 FINDINGS:

The transfer of petroleum and petroleum products poses a potentially severe threat to the state's coastal resources.

Accidental spills of petroleum products may adversely impact the marine and coastal environments, may endanger public health and safety, and may damage other necessary and legitimate uses of the coastal region.

Minimum requirements and procedures to be followed during transfer of petroleum products from vessel to vessel must be set forth in order to insure that such transfers are carried out in a manner consistent with the Council's obligation to preserve and protect coastal resources.

Effective implementation of transfer regulations requires an ability to readily identify the source of any spilled petroleum.

Technology exists to make such identifications through infrared spectroscopy ("fingerprinting").

630.3-2 POLICIES AND REGULATIONS:DEFINITIONS:

Council:
"Council" shall mean the Coastal Resources Management Council.

~~Council Representative:~~
~~"Council Representative" shall mean a person appointed or employed as the Council's representative or agent.~~

~~Discharge:~~
~~"Discharge" shall mean any spilling, leaking, pumping, pouring, emitting, emptying or dumping either directly or indirectly to the waters of the State of Rhode Island.~~

~~Oil:~~
~~"Oil" means oil of any kind and in any form including, but not limited to petroleum, fuel, oil refuse, oil mixed with other wastes, crude oils and all other liquid hydro- carbons regardless of specific gravity.~~

~~Operate or Operator:~~
~~"Operate of Operator" shall mean any person owning or operating an oil carrying tanker vessel with a capacity of more than 5,000 gallons whether by lease, contract, or any other form of agreement.~~

~~Person:~~
~~"Person" shall mean individual, partnership, joint venture, corporation or any group of the foregoing organized or united for a business purpose.~~

~~Transfer:~~
~~"Transfer" shall include both on loading and off loading between vessels.~~

~~Vessel:~~
~~"Vessel" includes every description of water craft or other contrivance used or capable of being used as a means of transportation on water, whether self propelled or otherwise, and shall include barges and tugs.~~

~~Transfer operations for petroleum and petroleum products:~~

~~Pre-transfer Conference: No person shall commence or cause to be commenced or consent to the commencements of bulk oil transfer operations unless the following items have been reviewed, agreed upon, and compiled with by personnel of the vessels involved.~~

~~A licensed officer or certified tankerman who has full knowledge of the vessel's tanks and cargo handling system, shall be in charge of cargo handling for each vessel receiving or discharging oil at all times.~~

~~A sufficient number of adequately trained men shall be assigned to be constantly on duty on the vessels during cargo transfer operations, to keep the transfer operation under constant observation to insure immediate action in case of a malfunction.~~

~~Cargo sequence for loading or discharging products and the proper baseline for each product has been established.~~

~~The handling rate at which oil will be transferred has been established. Reduced rates are required when commencing transfer, changing the lineup, topping off tanks or nearing completion of transfer. The amount of time to be given when the off loading vessel desires to start, stop, or change the rate of flow has been determined.~~

~~A positive communication and signal system shall be operable during all transfer operations.~~

~~The emergency procedures to be followed in order to stop and contain any discharge shall have been established.~~

~~Personnel responsible for transfer shall be clearly identifiable at all times; prior to transfer operations, personnel responsible for transfer shall be made known to each other.~~

~~Transfer Procedures: No person shall transfer or cause to be transferred or consent to the transfer of any oil from any oil carrying vessel to any other oil carrying vessel unless:~~

~~All equipment through which oil may pass during transfer operations has been inspected visually prior to each operation.~~

~~Any hose used in the transfer shall be pressure tested annually and shall not be subjected to transfer pressures greater than 75 percent of the last pressure test or greater than the rated hose pressure, whichever is less.~~

~~All hoses used in the transfer of petroleum products from vessel to vessel shall be marked with a hose number. These markings shall be in color sharply contrasting with the color of the hose and shall be not less than one and one half inches high. The operator shall keep a log book of all tests conducted on the individual hoses. This log book shall contain the hose number, the test pressure, the date of test, the place of test, and the signature of the person conducting the test. This log book shall be available for inspection by a representative of the Coastal Resources Management Council.~~

~~Hoses are supported so as to avoid crushing or excessive strain. Flanges, joints and hoses shall be checked visually for cracks and wet spots.~~

~~Hose handling rigs are of a type which allow adjustments for vessel movement and hoses shall be long enough so that they will not be strained by any movement of the vessels.~~

~~Hose ends are blanked tightly when hoses are moved into position to be connected, and also immediately after they are disconnected and drained into a drip pan.~~

~~Hoses are not permitted to chafe on vessels or to be in contact with hot surfaces such as stream pipes or to be exposed to other corrosive sources.~~

~~Mooring lines and lines securing the vessels to each other, are tended to prevent excessive movement of the vessels.~~

~~The surrounding water shall be inspected frequently during transfer operations. A log of all such inspections shall be kept and signed by the person making the inspection and shall be available for inspection by a representative of the Coastal Resources Management Council.~~

~~Vessel to Vessel Transfer: Off- loading requirements: No person shall transfer or cause to be transferred or consent to the transfer of any bulk oil from any oil carrying vessel to any other oil carrying vessel unless:~~

~~Sea valves connected to the cargo piping and stern loading connections are tightly closed and sealed with a numbered seal which is to be logged in the ship's log book.~~

~~The licensed officer on duty must see that all valves and lines in the pumproom are properly lined up for discharge. An additional check must be made for the same purpose each time the setting is changed.~~

~~Full rate of discharge is not attained until lines of receiving vessel are proven clear.~~

~~On completion of transfer operations, hoses or other connecting devices shall be vented, blown down, or sucked out to drain the remaining oil. A drip pan shall be in place when breaking a connection and the end of the hose or other connecting devices shall be blanked off before being moved.~~

~~Vessel to Vessel Transfer: Receiving requirements: No person shall transfer, or cause to be transferred, or consent to the transfer of any bulk oil from any oil carrying vessel to any other oil carrying vessel unless:~~

All sea valves connected to the cargo piping, stern discharge and ballast discharge valves are closed and sealed with a numbered seal which is to be logged in the ship's log book or some other book or record kept aboard said vessel and available for inspection.

Special attention is paid during the topping off process to the loading rate, the number of tanks open, the danger of air pockets and the inspection of tanks already loading. Notice of the slowdown for topping must be given to off loading vessel personnel.

Upon completion of loading, all tank valves and loading valves are closed. After draining, hoses shall be disconnected and hose risers blanked.

4. Vessel Transfers while at Anchor: No vessel while at anchor shall transfer petroleum products while gale warnings (wind velocity 35 knots or more) are in effect.

Vessel to vessel transfers may only be carried on in anchorage areas designated by the Coastal Resources Management Council. The transfer of fuel for a vessel's own use may take place outside the designated anchorage area, but in no case during gale warnings.

Spillage during Transfer: Transfer shall cease if a discharge of oil to the waters of the State occurs during such transfer. Transfer may be resumed when in the judgment of the Coastal Resources Management Council's representative, after consultation if necessary, with the United States Coast Guard or local authority adequate steps have been taken to control the spill and to prevent further spillage.

Scupers: No person shall transfer or cause to be transferred or consent to the transfer of any bulk oil from one oil carrying vessel to another oil carrying vessel unless the scuppers of any such vessel are plugged watertight during the oil transfer. However, it will be permissible to remove scupper plugs as necessary to allow runoff of water provided a vessel crew member stands watch to re-close the scuppers in case of an oil spill.

Illumination: No person shall transfer or cause to be transferred or consent to the transfer of any bulk oil after dark from one oil carrying vessel to another oil carrying vessel unless both vessels are adequately illuminated.

Open Hatch Transfer: Transfer of oil by means of a hose through an open hatch is prohibited. An exception will be made only when an emergency arises, and this is the only means of moving flammable oil from one vessel compartment to another or, of unloading the vessel for the purpose of reducing or preventing pollution or for preventing foundering and then only when all possible precautions to prevent discharge to the waters of the state have been taken.

Sample Collection: No person shall transfer in bulk nor cause to be transferred from any vessel to another vessel any petroleum product known as residual lube oils or middle distillate fuel until they have taken or cause to be taken a

composite sample of such product of not less than one pint from such vessel. Such sample shall be labeled in a fashion prescribed by the Coastal Resources Management Council and retained by said person for use by the Coastal Resources Management Council for a period of not less than sixty (60) days.

Reports and Notification:

Anticipated Transfer: The Council shall be notified at lease 12 hours in advance of any transfer of bulk oil from one vessel to another.

Names of vessels.

Approximate amount of oil to be transferred.

Product type.

Expected time and date of vessels arrivals.

Should unusual circumstances make it impossible to provide 12 hour notice, the operator shall notify the Council as soon as possible. Notification is not required for transfer of oil for a vessel's own use.

Oil Spill Reporting Procedure: In the event of any overboard discharge during vessel to vessel transfer, the person, firm or corporation responsible for the discharge shall immediately undertake to remove such discharge. Responsibility for removal shall remain with the person, firm or corporation responsible for the illegal discharge. For this purpose, the owner shall have readily available adequate essential equipment approved by the Council for the containment and removal of such a discharge, sufficient personnel to deploy and the use of such equipment. In addition to the existing procedures, the following actions are necessary:

Initial Telephone Report: An initial telephone report of any discharge to the waters of the State shall be made to the Council or Council's representative as soon as practicable but within two hours. The report shall include:

Time of discharge.

Location of discharge.

Type and amount of oil.

Assistance required.

Name and telephone number of person making report.

Other pertinent information.

~~A telephone report shall also be made to the National Response Center at 1-800-424-8802.~~

~~Second Telephone Report: A second telephone report shall be made as soon as adequate information is available but not more than eight hours after the first report. The report shall include:~~

~~Success of containment procedures.~~

~~Actions for removal and success of removal.~~

~~Estimate of area affected by such discharge.~~

~~Assistance required.~~

~~Other pertinent information.~~

~~After removal of such discharge has been completed, the operator shall prepare a complete written report of the occurrence and submit such a report to the Coastal Resources Management Council within ten (10) days. If circumstances make a complete report impossible, a partial report shall be submitted. This report shall include, but not be limited to, the following information:~~

~~Date, time and place of discharge.~~

~~Name of permitee, name of owner of vessel or other party (ies) involved.~~

~~Amount and type of oil discharged.~~

~~Complete description of containment and removal operation including costs of these operations.~~

~~Complete description of circumstances causing discharge.~~

~~Description and estimate of third party damages.~~

~~Procedures, methods and precautions instituted to prevent a similar occurrence from re-occurring.~~

~~Recommendations to the Coastal Resources Management Council for changes in regulations or operating procedures.~~

~~Name and address of any person, firm or corporation suffering damages from the discharge and an estimate of the cost of such damages.~~

~~Council telephone number: The Coastal Resources Management Council is available by calling 401-783-3370, or fax number 401-783-3767.~~

. Permit:

Transfer Permit: No person as defined in this section shall transfer or cause to be transferred or consent to the transfer of any oil from one vessel to another, unless said person holds a valid permit issued by the Coastal Resources Management Council and is abiding by all the conditions set forth in these regulations. Said permit shall be requested on such form as the Council shall from time to time so designate and shall contain such information as the Council shall deem necessary. Upon presentation of the completed request for a permit and the payment of a fee of
$35.00 per discharge, the Council is authorized to issue a valid permit.

Declaration of Inspection: A copy of the "Declaration of Inspection" required by the United States Coast Guard shall be in possession of the operator or his representative and shall be available to the Coastal Resources Management Council representative who shall, on demand, be given the opportunity to satisfy himself that the condition of the vessel is as stated in the "Declaration of Inspection."

Declaration of Understanding: A copy of the "Declaration of Understanding" shall be presented by the vessel's pilot to the master of the vessel when the former boards the vessel. No transfer of oil shall be undertaken until such time as the master of the vessel returns the signed "Declaration of Understanding" to the pilot who shall within five (5) days deliver said "Declaration" to the office of Coastal Resources Management Council. Said "Declaration" shall state that the master of the vessel is knowledgeable of these regulations and agrees to abide by same.

And that further such transfer shall be supervised by a person competent in the transfer of petroleum products from one vessel to another.

Other: Operators shall also complete such other forms, check lists and reports as the Council from time to time may require.

Bunkering and Lightering: Nothing in the foregoing regulations should be construed as to prohibit the function of bunkering vessels or when a demonstrated need is shown, the lightering of vessels at a place other than the area designated in these regulations. Such

demonstrated need should be evaluated by the Council who is authorized to set temporary regulations for such procedures.

Designated Anchorage Areas: The area designated in Narragansett Bay East Passage for vessel-to-vessel transfer of oil is that area south of Gould Island and north of the Newport Bridge bounded by the following coordinates:

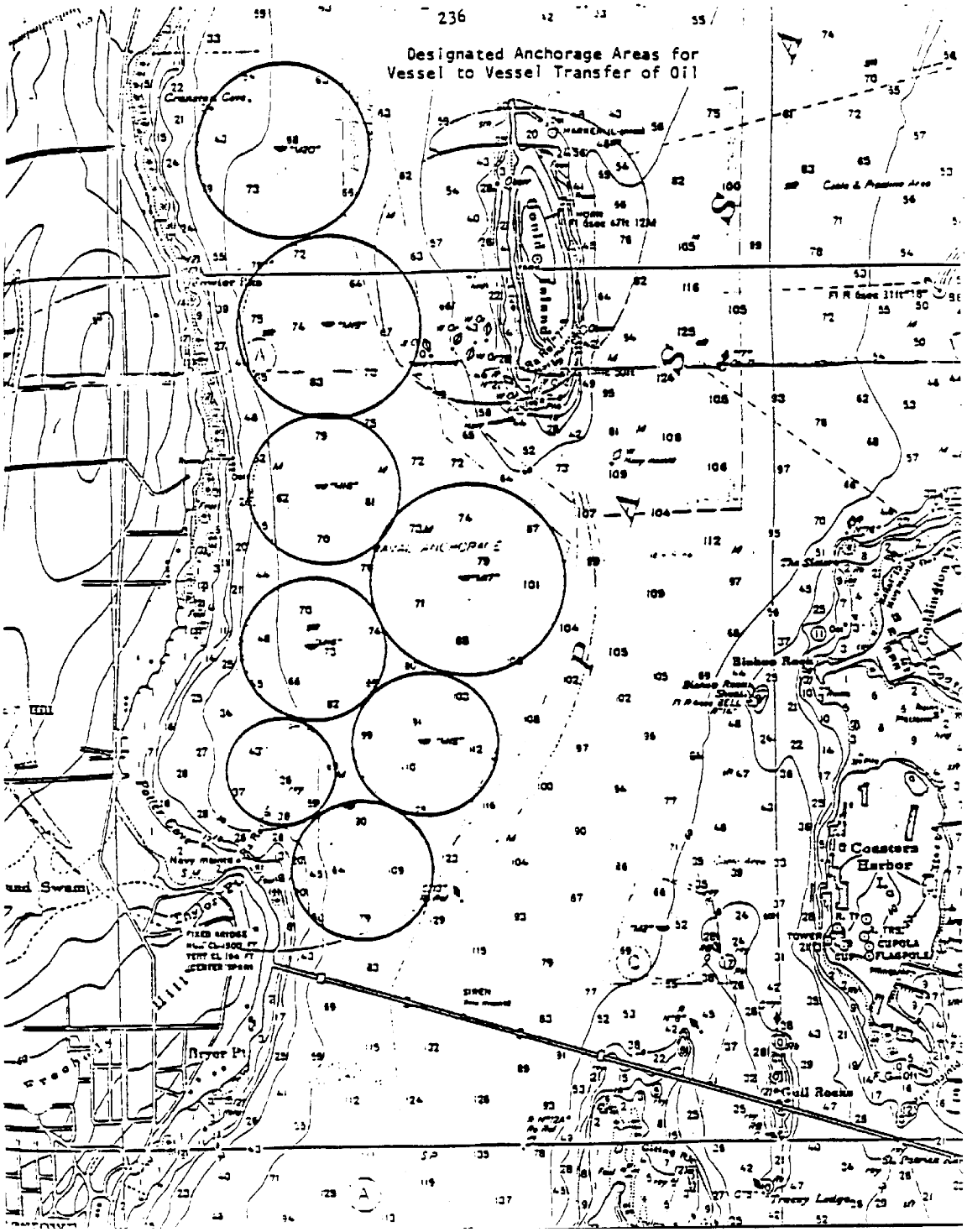
Latitude 41° 30' 41" North Longitude 71° 20' 57" West

~~Latitude 41° 31' 17" North Longitude 71° 20' 29" West~~

~~Latitude 41° 31' 42" North Longitude 71° 21' 05" West~~

~~Latitude 41° 30' 49" North Longitude 71° 21' 14" West~~

Designated Anchorage Areas for Vessel to Vessel Transfer of Oil



Vessel to Shore Transfer

630.4-1 FINDINGS:

Transfer of petroleum products from barges and tankers to shore front storage facilities located in upper Narragansett Bay has the potential to cause major environmental damage if not properly managed.

As many as 10 million gallons of toxic material may be transferred in a single operation.
Accidental spills due to human error or equipment failure could release massive amounts of petroleum into the marine environment.
Petroleum may have persistent and wide ranging impacts on marine organisms and may accumulate in bottom sediments.
If not contained, a spill could contaminate much of Narragansett Bay in a relatively short time, severely damaging its scenic and recreational values, its commercial shell fishery, and its natural environment.

Ship to shore transfers are not, however, a significant management problem in Rhode Island because of actions taken by the State Department of Health, the United States Coast Guard and the petroleum industry.

The Department of Health promulgated rules and regulations to prevent the discharge or escape of petroleum products into state waters in 1957 under authority set forth in Title 46, Chapter 12 of the General Laws. These regulations, upon which Council vessel to vessel transfer regulations were modeled, address ship to shore transfers directly and in comparable detail.

Under Section 154.300, 33 CFR the Coast Guard enforces regulations pertaining to petroleum products handling. Under this section all terminals are required to prepare a spill prevention and mitigation plan which must be approved by the United States Coast Guard. All Rhode Island terminals have received such approval.

The Rhode Island petroleum industry in itself has been a major innovator in the prevention and containment of spills. In cooperation with the State Department of Health, the Rhode Island Petroleum Association established the nation's first port petroleum cooperative in 1966. (There are now over 100). The cooperative purchased 3,000 feet of containment boom at that time and another 3,000 feet in 1973. Booms are stored at terminals in the port area and on two radio dispatched trucks donated by the industry to the Providence and East Providence Fire Departments.

The Council concludes that existing prevention and mitigation procedures and requirements are adequate to prevent damage to the coastal environment and are consistent with its legal obligation to preserve, protect and restore the coastal resources of the state.

The Council finds a need, however, to be able to more readily identify the source of any spilled petroleum product in the state's tidal waters.

Recognizing that the technology exists to make such identifications, the Council has provided funding to support an oil "fingerprinting" laboratory at the University of Rhode Island.

630.4-2 POLICIES AND REGULATIONS:

No person shall transfer nor cause to be transferred from any vessel to a shore installation, any petroleum product known as residual, lube oils or middle distillate fuel until they have taken or cause to be taken a composite sample of such product of not less than one pint from such vessel. Such sample shall be labeled in a fashion prescribed by the Coastal Resources Management Council and retained by said person for use by the Coastal Resources Management Council for a period of not less than sixty (60) days.

Further, subsequent to the shore transfer of such petroleum product from a vessel to a shore installation, the operator of such shore installation shall obtain or cause to be obtained a shore tank composite sample of such product so transferred and such sample be labeled in a fashion prescribed by Coastal Resources Management Council, and retained by said person for use by the Coastal Resources Management Council for a period of not less than sixty (60) days.

Shore Transfer

630.5-1 FINDINGS:

Transfer of petroleum products from storage facilities in the coastal region to vehicles for transportation to retain and wholesale distributors, has limited potential for significantly damaging the coastal environment.

The potential for major spills is small due to the limited size of single transfers (8,000 gallons for a large tank truck), and the utilization of automatic shut-offs on transfer equipment.
The potential for chronic small spills or seepage is greater, but is controlled by the Department of Health regulations referenced under Section 630.4-1. These require that transfer areas be graded to channel runoff into oil/water separators which remove hydrocarbon residues.
Compliance with health regulations has been excellent and seepage is consequently not a significant management issue.

The Council concludes that existing prevention and mitigation procedures and requirements for the on-shore transfer of petroleum are adequate to prevent damage to the coastal environment and are consistent with its legal obligation to preserve, protect and restore the coastal resources of the state. It finds no need to promulgate additional Policies and Regulations a this time.

~~Petroleum Bulk Storage~~

~~640.1-1 FINDINGS:~~

~~Rhode Island is a major petroleum distribution center for the southern New England region (see Section 520.1-1).~~

~~Nearly twice the state's annual consumption of petroleum products passes through the Port of Providence each year.~~

~~Considerable quantities of fuel are transhipped by truck-tanker to nearby Massachusetts and Connecticut.~~

~~Unlike other states in the region, Rhode Island has substantial excess bulk storage capacity.~~

~~Existing facilities (see Figure 6-1) are capable of storing about 50% of the state"s annual (1 billion gallon) consumption of petroleum fuels.~~

~~Existing facilities have surplus capacity both in present storage tanks and room for new tanks.~~

~~Additional storage capacity exists in deactivated tanks at surplus Navy holdings at Melville in the Town of Portsmouth.~~

~~It appears unlikely that Rhode Island's excess storage capacity will be taxed by increased demands in the foreseeable future.~~

~~Present trends indicate a diffusion of oil distribution patterns. As a result Rhode Island's significance as an import/export center is likely to diminish.~~

~~Decreased export traffic will free up additional storage capacity in existing facilities. This will minimize or eliminate entirely the need for new tanks for domestic needs.~~

~~D.. There appears to be no need to anticipate additional bulk petroleum storage facilities in the state's coastal region for the foreseeable future.~~

~~640.1-2 POLICIES AND REGULATIONS~~

~~The Council finds that shore-front siting of petroleum bulk storage facilities within the confines of existing tank farms is an acceptable use of the state's coastal zone.~~

The Council shall require permits for such bulk storage facilities and shall require applicants for such permits to meet all evidentiary burdens set forth under general permit requirements (Section 610.2-2).

Pending completion of ongoing energy facility planning studies [1] the Council shall not permit expansion of existing tank farms beyond their present bounds, nor shall it permit construction of new petroleum bulk storage facilities in the coastal region.

Storage and Processing of Liquified Gases

640.2-1 FINDINGS:

The Rhode Island coastal region contains one liquified natural gas (LNG) storage facility at Sassafras Point in Providence. Other facilities in the State of Rhode Island are located in Exeter and Cumberland.

Existing facilities are supplied by truck.

Gas stored in liquified form is used to supplement piped supplies during peak winter consumption periods.

Increased demand for natural gas as a clean burning fuel for home heating may generate demands for additional LNG storage facilities.

If local and regional demands continue to increase, it may become commercially attractive to import large volumes of LNG from foreign sources by tanker ship.

Such imports would generate additional demands for storage facilities in the coastal region, especially in the existing port areas such as Providence.

As with other forms of highly concentrated energy, special scrutiny must be given to the location, design and operation of LNG/LPG facilities. Accidental releases of LNG could pose a public safety hazard.

LNG is a cryogenic material, remaining in a liquid state at atmospheric pressure only when kept below -260^{o} F.
Containment and handling equipment must be specifically designed for service at these low temperatures.
Should LNG accidently spill on land or water it vaporizes rapidly forming a cold plume of flammable natural gas.
If ignited quickly, LNG pools burn as very intense fires in a manner similar to gasoline. If ignition does not occur quickly, a flammable (explosive if confined) vapor plume may be carried downwind until a source of ignition is encountered or until the gas vapor-to-total volume is less than 5%.

[1] See also energy planning regulations (610.1-2).

~~Technology and procedures exist to markedly reduce, but not totally eliminate the dangers associated with storage and handling of LNG. Stringent Federal regulations governing the design and operation of LNG facilities serve to minimize these dangers.~~

~~LNG storage may constitute a major coastal land use in terms of the acreage involved and potential impacts on surrounding land uses and development patterns.~~

~~Site requirements for an LNG terminal are dependent upon the nature of its operations and the ambient site conditions. Such a facility may require substantial land area, perhaps up to 200 acres in a coastal location with access to channel depths of up to approximately 40 feet.~~

~~Improper design and operation of such a facility could pose a safety hazard to surrounding land uses.~~

~~Facilities may have visual impact on surrounding land uses and areas.~~

~~Little research has been completed on the long term environmental effects of an accidental release of LNG.~~

~~Localized short term mortality of coastal and marine life forms exposed to the extremely cold gas can be anticipated.~~

~~Re-gasification prior to release into distribution pipelines, may involve once through heating by seawater with consequent impacts on marine organisms through rapid cooling, release of toxic and anti-foulants, and mechanical damage. Due to such environmental constraints however, the preferred technique utilizes gas as the heating agent.~~

~~640.2-2 POLICIES AND REGULATIONS:~~

~~Transfer of liquified gases from vessels transporting such gases to bulk storage facilities located in the Rhode Island coastal region is subject to the United States Coast Guard control. General regulations for the transport and discharge of LNG and LPG in Narragansett Bay have been adopted and are in force (COTP Providence LNG/LPG Contingency Plan August 1st, 1975).~~

~~Siting, construction and operation of facilities for the transfer, bulk storage or re- gasification of liquified gases shall require a Council permit.~~

~~Applicants for such a permit shall be required to meet all permit and regulatory requirements set forth under Section 610.2-2, and to further demonstrate by a fair preponderance of evidence that facility siting and operation will be consistent with preservation of the health and safety of nearby populations.~~

~~It shall be further demonstrated by reliable and probative evidence that:~~

~~All applicable federal, state and local design material and operating regulations, codes or other such requirements will be complied with:~~

~~Storage tanks will be constructed of proven materials and will be designed and operated within the design limits of pressure relief and emergency venting systems:~~

~~Storage tanks will be sited at sufficient distance from each other and so isolated by terms or containments that accidental release and combustion of gases from one cannot ignite or otherwise damage any other:~~

~~Storage tanks will be sited a sufficient distance from any stored corrosive material likely to damage or weaken such tanks. Each tank will be surrounded by a continuous berm or containment of sufficient diameter and height to contain the entire liquid contents of such tank.~~

~~Any pipeline for the transfer of liquified gas into or from such a facility or on the premises of such a facility will be provided with dikes or berms capable of containing the largest spill that might occur if such pipeline was ruptured and before it could be drained or shutdown.~~

~~Provision for installation and operation of automatic and continuous monitoring, alarm and shutdown devices mut be made;~~

~~Provision for independent emergency power to maintain such meergency and essential operating equipment must be made;~~

~~Provision for fire protection and fire fighting including emergency plans, equipment and personnel must be made.~~

~~Provisions for spill protection and prevention of ignition must be made.~~

~~Provisions must be made for LNG terminal security.~~

~~Vaporization of liquid gasses utilizing fresh or marine water sources shall not be permitted unless such water is recycled. Release of process water to the coastal environment shall only be permitted upon demonstration that no significant environmental damage will result.~~

650.0 PROCESSING OF PETROLEUM PRODUCTS

650.0-1 FINDINGS:

Oil and gas refining share essentially similar characteristics in terms of site requirements, construction activities and operational impacts. Gas facilities, however, are typically considerably smaller with a consequent reduction in siting and operational impacts.

Construction: Comparable to any major industrial construction project, construction activities would include excavation, clearing, operation of heavy equipment, noise and emissions over an extended time frame.

Water Use: Oil refineries in particular require considerable volumes of water for cooling and processing (between 5 and 12 million gallons per day for a 250,000 barrel per day facility). Cooling waters are discharged at elevated temperatures and may be contaminated with hydrocarbons, acids, and metallic compounds.

Air Emissions: Refineries are potential major sources of air pollution including particulate, sulfur and nitrogen oxides; volatile hydrocarbons, hydrogen sulfide and carbon monoxide. Even with the best available technology, emissions cannot be totally eliminated.

Solid Wastes: Toxic absorbents, oxides, scale, catalysts and sludge in large quantities are by-products of the refining process and their disposal can have major environmental impacts.

Aesthetics: Refineries can be major visual intrustions due to side and around-the-clock operations.

Land Use: Refineries require large sites (between 1,000 and 1,500 acres for a 250,000 barrel a day oil refinery). Sites must be prime industrially serviced land. Siting may stimulate industrial growth in surrounding areas.

Safety: The refining process involves the handling of highly toxic and flammable materials in large volumes. Appropriate safety precautions must be taken to contain these materials.

Economic: Construction activity will have significant impacts on local employment opportunities for a limited period of time. Operational employment will vary with facility size, but will be much lower. Increased tax revenue will be generated. However, increased demands on public services, fire protection, water service, police, sewers, roads, schools and housing should also be anticipated.

Siting of oil refineries and/or gas processing facilities in the Rhode Island coastal region is a management issue. It is unlikely that an oil refinery will be sited in Rhode Island. A gas

~~processing facility, while more likely would not be sited unless and until justified by production of OCS gas. These conclusions are based on the following factors:~~

~~Environmental Impact Statements prepared on North Atlantic OCS lease sales indicate that oil will be refined at existing facilities in New Jersey.~~

~~The Environmental Protection Agency has determined that siting of an oil refinery in Southeastern New England would have an unacceptable impact on air quality. It has publicly stated that it would not allow siting of major new emission sources including oil refineries in this area.~~

~~Siting of gas processing facilities is dictated by pipeline routing. Since Rhode Island's ocean shoreline provides one likely landfall for an OCS gas pipeline, such facilities may be proposed. Construction should not be anticipated however, until eight or nine years after the first OCS lease sale.~~

~~650.0-2 POLICIES AND REGULATIONS:~~

~~Refer to general permit and regulatory requirements (Section 610.2-2).~~