Legislative History for Connecticut Act

SB 1159 PA 765 1969

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Hse 5029 -5030 (consent) 2

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Water Resources

21 p.

Transcripts from the Joint Standing Committee Public Hearing(s) and/or Senate and House of Representatives Proceedings

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CONNECTICUT
GEN. ASSEMBLY
SENATE

PROCEEDINGS
1969

VOL. 13
PART 6
2565-3073

SENATOR PICKETT:

Mr. President, I move for acceptance of the Committees favorable report and passage of the bill.

THE CHAIR:

Question is on passage of this bill. Will you remark.

SENATOR PICKETT:

Mr. President, we do have a statute on the books providing for damages in death action. These damages are the benefits occuring from the same or subject to the payment of the funeral bill and the other things already in the statute. It was felt that the claims against the estate also should be permitted to be levied if they are legitimate against these proceeds.

From time to time perhaps you have seen a person who is involved in a fatal accident who otherwise judgement prove perhaps incurred some very legitimate claims, whether it be funeral or hospital bills, etc., and the creditors are then able to proceed against the benefits of the claim. It should be and therefore, we ask too have this bill enacted into law.

THE CHAIR:

Any further remarks. If not, as many who are in favor of the bill signify by saying aye, opposed. The bill is passed.

THE CLERK:

Calendar No. 1189, File No. 1436. Favorable report of the Joint Standing Committee on Water Resources and Flood Control, on Substitute Senate Bill No. 1159. An Act concerning the Oil Pollution of Connecticut Rivers.

SENATOR STANLEY:

Mr. President, I move for acceptance of the Joint Committees favorable report and passage of the bill.

THE CHAIR:

Question is on passage of this bill. Will you remark.

SENATOR STANLEY:

Mr. President, I think that this is perhaps one of the most important bills that we have brought out of the Water Resources Committee. It deals with the problem that is ravishing the coast of this country and in fact, many of the countries throughout the world. Oil pollution and pollution of the coastal waters. But I think to explain it, although the Committee worked very hard to strengthen it and make it an effective and meaningful bill, I think it would be appropriate to defer to the author of the bill the Honorable Senator from the 21st.

THE CHAIR:

Senator Gunther from the 21st District.

SENATOR GUNTHER:

Mr. President, this bill will require the Water Resources Commission to license all terminals for loading and discharging petroleum or chemical liquids and adopt resonable regulations for their control. It will also require periodic inspection of hoses, gaskets, tanks and equipment for these terminals. It will require for suitable equipment for removable of oil, petroleum or chemical which spills, be available and in operating position. It will also require the reporting of any spillage and if the pollutor

fails to report his spillage there will be a fine for not reporting.

The pollutor will also be liable for all costs and expenses incurred in containing and removing this spillage. It also enables the Water Resources Commission to enter into agreements with the federal government, regional, state and municipal government and all matters related to oil, petroleum or chemical produce pollution or contamination in the waters of the state, off shore and coastal waters of Connecticut.

This bill will actually correct the defects in our present clean water act and its badly needed. Other New England states such as Mass, New Hampshire and Maine all of bills that control the handling of petroleum products. This particular bill is patterned after Mass law. I think that we are all aware of the incident that occurred just in the past few months. There were two in Bridgeport harbor and there were two in eastern Long Island sound and there is a continuing condition that exists in Stamford.

Oil pollution is actually one of the worst types of pollution that we have to contend with and it has an immediate and sustained effect on our waters. Its a good bill and should be a part of our Clean Water Act.

THE CHAIR:

Will you remark further on this bill. Senator Hammer from the 12th.

SENATOR HAMMER:

Mr. President, I rise to support this bill. As a senator from many shore communities, I have an interest in this and my people have an interest in this. We have had a little bit of trouble along our shoreline and we have watched what is happening, in other areas across the world and we are very very happy to have this bill and I thank the author of it and the Committee for bringing it out.

THE CHAIR:

Will you remark further on the bill. If not, as many who are in favor signify by saying aye, opposed. The bill is passed.

The President in the Chair.

THE CLERK:

Calendar No. 1195, File No. 1441. Favorable report of the Joint Standing Committee on Finance on Senate Bill No. 660. An Act concerning the Guarantee of Bonds of Public Recreational Facilities Authorities.

SENATOR VERRIKER:

Mr. President, I move for passage of the bill.

THE CHAIR:

Question is on passage of the bill. Will you remark.

SENATOR VERRIKER:

Mr. President, this bill provides that the amount of bonds of authority guaranteed by a municipality otherwise includable as debt of the municipality for the purpose of determining its following capacity, maybe deducted from the municipality debt at

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CONNECTICUT
GEN. ASSEMBLY
HOUSE

PROCEEDINGS
1969

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Cal. 1449. Mod. H.B. No. 6563. File 1554. Cal. 1450 H.B. No. 8701. File 1548. Cal. 1453 H.B. No. 6097. File 1550, Cal. 1457 Sub. for H.B. No. 5994. File 1540, Cal. 1458. Mod. H.B. #1458. File 1539. Cal. 1459 Sub. for H.B. No. 7025. File 1538. Cal. 1474 Mod. H.B. No. 5752. File 1533. To the top of page 5, Cal. 1465, Joint Resolution No. 127. File 1439. Cal. 1466 S.B. No. 106. File 1349. Cal. 1467 Sub. for S.B. No. 558 Files 292, 1267. Cal. 1468 S.B. No. 669, File 1441. Cal. 1470 S.B. No. 1032. File 1437. Cal. 1472, Sub. for S.B. No. 1159. File 1436. Cal. 1475. S.B. No. 1500. File 1420. To the top of Page 6, Cal. 1476 Sub. for S.B. No. 1534. File 1434. Cal. 1478 Sub. for H.B. No. 7808. File 1555. Cal. 1480. Sub. for H.B. No. 6828. File 1557. Cal. 1482. Modified H.B. No. 7407. File 1558. Cal. 1483 Sub. for H.B. No. 7042. File 1566. Cal. 1484 H.B. No. 8702. File 1565. Cal. 1485 Sub. for H.B. No. 7872. File 1570. To the top of Page 7. Cal. 1486, H.B. 5125. File 1569. Cal. 1489. S.B. No. 1569. File 1508. Cal. 1492. S.B. No. 1584. File 1468, Cal. 1495. S.B. No. 1138. File 1503. Cal. 1497. S.B. No. 197. File 1506. Cal. 1498 Mod. S.B. No. 252 File 1502. Cal. 1499 Mod. S.B. No. 253. File 1501. Cal. 1501 Sub. for S.B. No. 330. File 1432. To the top page of 8, Cal. 1509. Sub. for S.B. No. 904. File 1472. Cal. 1515 Sub. for S. B. No. 813. File 1572.

MR. SPEAKER:

Further remarks from the gentleman from the 78th. All those in favor indicate by saying aye. Those opposed? The bills

are passed.

THE CLERK:

That's the end of it.

REP. HANNON - 16th D.

Mr. Speaker, am I to understand that Cal. 1411 on Page 1 was just passed by the Consent Cal.

MR. SPEAKER:

That is correct.

REP. HANNON - 16th D.

I just came into the chamber, Mr. Speaker, I wonder if this item might not be reconsidered taken off the Consent Cal. and passed retaining for one day.

MR. SPEAKER:

Is there objection to reconsideration on this one item. I would note that it is a Senate bill so it does not cause a problem with transmital.

REP. KENNELLY - 1st.

I vote for reconsideration of Cal. 1411 S. B. No. 291. File 1369. When the vote was taken, I was on the prevailing side, sir.

MR. SPEAKER:

Is there objection? Hearing no objection, reconsideration is granted. Do you now wish to move to pass this retaining?

REP. KENNELLY - 1st.

Mr. Speaker, I move that Cal. 1411 File 1369 be passed retaining its place on the Cal.

MR. SPEAKER:

Is there objection? Hearing none, this item having been

JOINT
STANDING
COMMITTEE
HEARINGS

WATER
RESOURCE
FLOOD
CONTROL

1969

Monday April 7, 1969

Water Resources and Flood Control

Committee members present:

Senator W. B. Stanley, 19th District
G. L. Gunthers, 21st District

Representatives W. J. Violetti, 36th District
P. A. LaRosa, 4th District
M. M. Comstock, 71st District
Clarence Platt, 121st District
A. Fox, 152nd District
A. E. Geannim, 134th District
Sid Axelrod, 65th District
Eloise Grein, 93rd District
Edward L. Ivanicki, 79th District
Frances Mahoney, 19th District

Chairman William B. Stanley presiding.

Good afternoon may I identify myself, I'm Senator Stanley, Chairman of Water Resources and Flood Control. Representative Paul LaRosa is the House Chairman. We have here the register so that anyone speaking before you speak in order that we may have a double check, not only with the microphones but with the signatures so when they record the minutes they may know exactly whose speaking. We would appreciate every one signing their name. Also there is a column that indicates if you are for or against any of the given bills. We would like you to indicate the number of the bill. I would like everyone when they come forward to identify themselves and be as brief as possible although we will not shut anyone off, but sometime you win the sympathy of the committee be being brief, and with this let us open the hearing.

Senator William B. Stanley - 19th District

Anyone wishing to speak in favor of SB 1464 please come forward.

Representative Holdredge - 63rd District

I'm Representative Holdredge of the 63rd District speaking in favor of "An Act concerning increasing the membership on the Representative Advisory Board to the Southeastern Connecticut Water Authority." I just want to go on record that I support this bill.

Senator William B. Stanley - Thank you Representative Holdredge. Are there any questions? Anyone wishing to speak in opposition of Senate Bill 1464? If not we will now listen to anyone speaking in favor of Senate Bill 1159.

Senator C. L. Gunther - 21st District

Senator G. L. Gunther here speaking here in favor of SB #1159, "An Act Concerning the Oil Pollution of Connecticut Waters." First of all I would like to read

you a clipping from the Connecticut Sunday Herald of March 30, 1969: New Oil Slick Pollutes Harbor Stamford.

STAMFORD: The city's polluted harbor, already termed the worst in the state, has a brand new oil slick on the West Side of the port, and apparently there's not a thing that can be done about the situation, either at the state or local level.

That's the word from the State Water Resources Commission as concerns the latest addition to the waterfront's filth woes, even though the perpetrator of the foul deed is known.

And the City's failure to have a working water pollution ordinance means that about all Stamford can do is slap the offender on the hand and hope the situation won't be repeated.

Richard Sullivan, of the WRC, said the way the state statutes are set up it is difficult for his facility to cope with isolated cases and the lack of a city ordinance with teeth in it negates any action Stamford takes against such violators.

Senator Stanley:

Anyone wishing to comment on the clipping? If not anyone else wishing to speak in favor of SB 1159.

John J. Curry - Director of Water Resources Commission

John J. Curry here speaking in favor of SB #1159.

Curry's Statement

Senator Stanley: Thank you Mr. Curry. Any questions?

Senator Gunther: Senator Stanley, I would like to submit this statement if I may in favor of Senate Bill #1159.

Gunther's Statement

Senator Stanley: Thank you Senator Gunther. Are there any questions? Is there anyone here wishing to speak in opposition of Senate Bill 1159? No one. We will now close the hearing on Senate Bill 1159, and now we will listen to anyone wishing to speak in favor of Senate Bill #1417, "An Act Concering the Composition of the Water Resources Commission

STATE OF CONNECTICUT
WATER RESOURCES COMMISSION
STATE OFFICE BUILDING ◎ HARTFORD, CONNECTICUT 06115

Statement of John J. Curry - Director of Water Resources Commission
to the Legislative Committee on Water Resources - Senate Bill No. 1159

"Matter" as defined in Section 1 apparently only appears in the definition of "oil". This would seem to restrict the act when oil is mixed with material which does not meet the definition of "matter".

The second sentence of Section 2 does not reflect the possibility that it is sometimes impossible to determine who was responsible for a specific spill.

It would appear that Section 3 should apply to all spillages not only those which are "willful" or "negligible". The second sentence under Section 3 would read better if a period were added after the word "expenses and the following words added "Such cost and expenses".

Under (a) Section 4, a person should only be entitled to reimbursement if assigned or directed to remove oil be some suitable authority. Under (b) Section 4, the one removing oil at the request of an authorized officer probably should not be exempt from all civil damages such as those which might arise from injury to his employees or the general public to make sure that claims do not fall back to the state or municipality requesting.

Some of the provisions of this act duplicate or overlap provisions of federal statutes now in effect or considered for passing in the present Congress.

The provisions of the first two sentences of Section 6 are already provided by existing state statutes.

3-31-69

Statement of Senator G. L. Gunther speaking before the kWater Resources Comm
Speaking in favor of SB1159 4/2/69 87

Of the four major New England Coastal States--Connecticut is the only one that does not have an oil pollution law. If there is any question that Connecticut needs a law I would call your attention to recent reports of oil pollution in Waterford, two incidents in Bridgeport Harbor, and just this past week in the City of Stamford.

In order to point out the futility in this area I would like to read a section of a story from the March 30th Conn. Sunday Hearld:------o--

This is another defect in our "Clean Water Act" that must be eliminated if we are going to accomplish meaningful water pollution abatement in our time. If there is any question that Connecticut needs SB1159 I call your attention to a report prepared by the Connecticut Research Commission (prepared by Mr. William Boyd of the Essex Marine Lab) entitled "Report of Feasilibity Study of an Oil Spill Control Facility for the Conn. River." Although this was prepared for controls on the Connecticut River, much of this study is applicable to the entire State of Connecticut. I would call your attention to Page 14 of this report on "existing Control Facilities":---------- It is quite apparent that the industry is not facing up to the responsibility and SB 1159 is necessary to insure that proper control of oil pollution is established in Connecticut.

This bill is patterned after the Mass. Law which has been in force for several years. It includes fines for polluters, reimbursement for damage, and sets up controls for limiting damage by oil pollution. I would again refer to the previous mentioned report on Oil Pollution Control, Page 10 on "Control of Oil Spills:---------- These recommendations are included in SB 1159.

Oil Pollution is one of the worse singular types of pollution. Its immediate and residual effects on our ecology are severe. Connecticut cannot afford to ignore this problem and we need SB 1159 to fill a void that now exists.

The need for this legislation is also brought out by a situation

we have on the Indian River in Milford. We have an oil polluter on this River that the Water Resources Commission has deffinitely established his involvement but is unable to proceed because they have issued an order for this polluter to clean up his mess by kDec. 1970. Under the existing law they cannot advance this date. I have previously mentioned this defficiency in our present "Clean Water Act" and hope this Committee has considered a Committee Bill to allow for an advancement of orders if the situation becomes acute. SB 1159 would establish the fine and responsbility for damages which would also encourage the termination of this source of pollution.

With the increase in oil pollution incidents, Connecticut cannot afford to be without laws to prevent this situations and establish responsibility. I ask your favorable action of SB 1159 and would suggest that the effective date be the date of passage.

Assuming that all preventive measures have failed, and that an oil spill has occurred, activities related to controlling the spread of the oil and its damage to the environment can be divided into three categories: 1) Isolation or containment of the spill, 2) Recovery of as much of the spilled product as is feasible, and 3) Dispersion of the remaining oil in such a manner as to do minimum damage.

The Battelle Memorial Institute report reviewed above devotes nine pages to various containment methods. Several types of mechanical booms are described, and there are less extensive references to bubble curtain barriers and to chemical booming. The latter two can be excluded from consideration for the Connecticut River, inasmuch as they would not be effective in the two to three knot currents which occur.

Various configurations of floating mechanical booms are available, distinguished from one another largely by differing materials and details of joints between sections. Most reports of trials of these booms state that they are not effective in seas greater than 1-1/2 to 2 feet. This should be of little importance on the Connecticut River, but questions also arise as to the effectiveness of mechanical booms in currents above 1-1/2 knots.

Current velocities also pose a problem in terms of reaction time. Assuming that a mechanical boom could contain a spill, it would have to be deployed very promptly following a spill to avoid fouling a long reach

of the river. Once a boom was in place at the downstream edge of a spill, the current would become advantageous, in that it would sweep the remainder of the spill down into the boom. Here limitations arise as to the capacity of a given boom.

In still water, an oil spill contained within a boom will have a surface elevation above that of the surrounding water. This difference in elevation, or freeboard, is a function of the relative densities of the petroleum product involved and the surrounding and underlying water. If the water mass is in motion, the shear forces at the oil water interface will tend to pile oil up on the downstream portions of the boom. If recovery operations can be instituted quickly enough, and carried on at a rate sufficient to establish an equilibrium in the oil water freeboard, little of the spill should escape a properly designed boom.

Chief Brocar, who is in charge of the oil spill control activities of the New Haven Fire Department, indicated a high degree of satisfaction with their mechanical boom. This boom is made up of ten foot sections consisting of a cylindrical polyethylene foam float, from which is suspended a weighted heavy duty polyethylene skirt approximately six inches deep. The New Haven boom is in two 1500 foot sections, stored on opposite sides of the harbor. These can be deployed very rapidly, either individually or as a unit.

Recovery

There are several approaches to the recovery problem. For small spills in confined waters, various adsorbants and absorbants are available. In the TORREY CANYON accident, many of these compounds were used as

fferent parts of the slick approached harbors and shorelines on both sides of the English Channel.

Materials such as sand, brick dust, fly ash and cement were used to collect and sink TORREY CANYON crude. Obviously, such a solution is not acceptable for the Connecticut River, inasmuch as the sunken sludge would do serious damage to the benthic community.

Other materials such as straw, sawdust, bark, certain plastic foams and textile wastes may be used to collect small quantities of oil. The oil-soaked material floats, and may be removed from the water for ultimate disposal by burning.

If the oil spill can be confined so that the oil layer achieves a depth of an inch or more, as might be the case with a promptly deployed boom, more efficient recovery methods are possible. Various configurations of skimming machines are commercially available, and have had years of successful application in refinery effluent streams. These in essence consist of a slotted pipe, which can be rotated to adjust the depth at which the material to be skimmed off is accepted into the pipe. The oil and water mixture is pumped from the pipe to settling tanks, or run through standard oil field oil/water separators. No marine adaptation of these techniques is commercially available, but one of a kind attempts have been made at Baltimore and at Houston.

More recently, considerable work has been done to develop mechanical skimming devices utilizing any one of several hydrophobic, petrophilic plastic foam belts. The belt is driven by two rollers, one submerged below the oil/water interface and the other positioned over a receiving tank.

Oil is lifted by the belt from the spill to the upper roller, where it encounters a pressure roller by means of which the oil is diverted to the holding tank. The newest of these recovery devices has just been licensed for commercial manufacture, but a prototype was successfully employed in the OCEAN EAGLE incident off Porto Rico.

One great advantage of this type of recovery device is that most of the oil recovered should be salvageable, requiring only minimal treatment to make it completely salable. It should be noted, however, that the limit to recovery activities is less a matter of salvage economics than it is a matter of the amount of oil which must be dispersed when recovery operations cease. None of the dispersing agents nor the oil-agent mixes is completely devoid of toxicity if present in more than minimal concentrations. It may, therefore, be necessary to continue recovery operations well past the economic limit, in order to bring the amount of unrecovered oil down to an acceptable volume.

Due to the high traffic density on the Connecticut River, the chances are good that an empty or partly laden vessel would be near a spill. Oil from a leaking vessel could be transferred rapidly, reducing the recovery requirements.

Dispersal

A large number of dispersing agents are readily available. These range from conventional detergents to highly specialized complexing agents. They exhibit a wide range of toxicity to marine life, and some are effective only with certain oil products. The Battelle report lists forty-four commercially available emulsifiers, with indications of relative

~~costs and toxicities~~.

~~EXISTING CONTROL FACILITIES~~

The questionnaire which was sent to major shippers included the question "What emergency measures can be taken now in the event of a spill, leak or similar mishap at dockside during unloading operations?" Four of the eleven respondents stated that no provisions for such mishaps have been made. Three simply mentioned preventive measures such as diked tanks, shutoff valves at tanks and dock, stopping pumping operations, or drip pans. Two companies indicated that they maintained limited stocks of dispersal chemicals. The two remaining companies replied that they would rely on containment equipment and dispersal chemicals from commercial sources in the area or from other companies in nearby ports. From the above responses, it is apparent that the shippers themselves have little or no capability to deal with anything more than very minor spills.

Sunshine Chemical Corporation provides oilspill control and cleanup services on a contract basis to many refiners and terminal operators throughout the United States. The company maintains an office in West Hartford, Connecticut, and a company representative states that containment equipment and chemical dispersants are stocked in the area. Whether or not the reaction time of this organization would be short enough to effectively contain a major spill is open to question.

REQUIREMENTS FOR AN EFFECTIVE OIL SPILL CONTROL SYSTEM

Containment

A floating boom appears to be the best containment mechanism currently available. The dimensions of the boom should be such that spills of as much as 20,000 barrels could be captured and contained. Until the performance of booms in the river currents can be more accurately evaluated, it is difficult to pinpoint the optimum dimensions. However, an order of magnitude estimate would indicate a boom approximately 2000 feet in length, and 1.5 feet in depth. The 2000 foot length should make it possible to deploy the boom across the downstream front of most spills, since the river currents will tend to form the spill into an elongated plume running downstream from the origin of the spill. The cylindrical volume of such a boom is 27,100 barrels. This is substantially greater than the 14,000 barrel average cargo, but the action of the river currents would make it impossible to contain the full cylindrical volume.

Rapid deployment of the boom is essential. This could best be achieved by flaking the boom down in a storage box mounted on the stern of a relatively fast steel workboat, which should also be equipped with a small boat to tend the far end of the net, and high pressure pumping equipment for the application of dispersant chemicals. This pumping equipment would give the workboat the additional capability of combatting waterfront fires.

Recovery

Until such time as more advanced recovery systems become commercially available, there are two approaches which might be pursued. The first of

these is to provide a simple floating pickup head, with an assortment of adapters so that the head could be attached to the various sized suction hoses carried on tankers and barges.

The second approach would involve the construction of a slotted pipe type skimmer. The slotted pipe should be mounted athwartships between the two hulls of a small catamaran, thereby achieving maximum stability and protection from wave action. Pumping equipment, and limited tankage would have to be provided on the recovery catamaran. The recovered oil/water mixture would be pumped to a barge or tanker, or transferred ashore by barge-transported tank trucks.

Dispersal

Stocks of dispersal chemicals should be maintained at convenient locations along the river, from which they could be transported to the scene of a spill by truck or boat. Upon completion of whatever recovery operations are feasible, the workboat would apply the dispersant chemical, recover the boom and small boat, and return to its dock.

Communications and Manpower

The importance of a rapid response in the event of an oil spill necessitates immediate notification of the control crew. For spills occurring at terminals, this can easily be accomplished by the use of regular telephone systems. However, in the event of a spill in transit, ships' radio systems must be relied upon. Radio communication from certain points in the river to the established marine stations is not always possible, and alternative arrangements should be made. These might include the use of the

existing State Highway radio system, and/or the State Police radio system.

The initial response by the boom boat would require a minimum crew of four. This would allow for a boat handler and boom tender for the boats at each end of the boom. Follow-up crews would be required for the recovery equipment, and for the transport of dispersant chemicals and the transfer of recovered products to shore.

Legal Aspects

A review of the legal framework within which any control organization would have to operate is beyond the scope of this report. However, wherever this question is raised in the literature reviewed, a strong impression is left that present legislation, both state and federal, needs a complete overhaul. There is, apparently, no clear delegation of responsibility to any agency which would allow such an agency to take effective measures in controlling a spill. The Federal Water Pollution Control Administration has asserted such authority in at least one instance, a spill on the Anacostia River in January 1968.[1]

Costs

The following estimates are given only to indicate the order of magnitude of the cost of establishing an oil control system patterned along the lines discussed above. The accuracy of the estimates can only be improved after considerable field testing, which is beyond the scope of this study.

35-40 foot workboat with high pressure pumping equipment	$50,000
15-20 foot workboat	3,500
2000 foot containment boom	15,000
Initial stock of dispersant chemicals	5,000
Total	$73,500

1. The Washington Post, January 20, 1968

Operating costs are impossible to estimate at this time. However, routine testing and maintenance of the equipment would certainly approach $5,000 per year. Manpower costs are impossible to estimate until the size and organizational makeup of the system can be determined.

Financing

Financing such a facility would require the co-operation of interested agencies and commercial organizations. State agencies to which an oil spill would be of concern include the State Highway Department, the State Fire Marshal, the Water Resources Commission, and the State Department of Public Health. Shippers, terminal operators, and their insurance companies all have an interest to protect. The method and amount of financial participation by each of these entities could only be worked out by direct negotiation between them.

SUMMARY AND RECOMMENDATIONS

What can happen, will happen. If this Parkinsonism is accepted, sooner or later a major oil spill can be expected on the Connecticut River. The efficacy of existing control measures has not been demonstrated, but appears inadequate.

At the existing state of the art, all control and cleanup measures depend upon initial containment of the oil spill. Therefore, no plans can be laid down until some form of containment device has been tested successfully under actual river conditions.

Assuming that such a device exists, an oil spill control plan should be created with necessary equipment and facilities so that life and

property along the river can be protected from the disastrous effects of a major oil spill. This would necessarily involve the establishment of one or more depots at which containment equipment and dispersant chemicals would be stored ready for immediate deployment. Capital costs of such a depot are estimated at approximately $73,500, exclusive of dockside facilities. This figure would include 2000 feet of booming equipment, a steel workboat in the 35 to 40 foot range, with speed capabilities to 20 knots, one small boat capable of handling one end of the boom, and an initial stock of dispersal materials. No costs have been estimated for a recovery unit, inasmuch as these are not yet commercially available, but interim solutions should be attempted.

Rapid notification of the control organization is essential, and might well be achieved through either the State Police radio system, or the State Highway Department radio system. In the event of a spill, the workboat, carrying the containment boom, the small boat, and a limited stock of dispersant would be dispatched to the scene. Its prime objective would be the containment within the boom of the greatest possible amount of oil.

While the containment operation is in progress, whatever recovery equipment which might be available would be brought to the scene, along with the required additional dispersal chemicals. Upon completion of recovery operations, the remaining oil would be dispersed. Application of dispersant chemicals is usually accomplished with high pressure water sprays, into which the proper concentration of dispersant is educted. It should be noted that the requirement for a high pressure spray on the workboat gives it the dual capability of a small fire boat.