of multifaceted measures such as a combination of PL/spaces and HBL. Another comment stated that the regulation should provide an owner or operator with a choice of equivalent measures so that the owner or operator may select the best arrangement for each ship in his or her fleet. The third comment stated that the NPRM should describe the results that a system should achieve, or quantitative measures of effectiveness, instead of mandating a single structure measure. The fourth comment stated that the proposed alternative oil outflow prevention measure provision grants total discretion to the Coast Guard without providing any criteria for the alternative measure, such as ensuring that it is at least as environmentally protective as the specified measure for the type and size of tankship under review.

The regulatory assessment in this SNPRM analyzes multifaceted measures such as combining PL/spaces with HBL and SBT with HBL. The Coast Guard still considers alternatives to, or choices between measures viable and solicits comments on the measures that should be deemed equivalent and their economic feasibility. Additionally, the Coast Guard is reviewing the performance criteria in the IMO alternative guidelines and encourages comment on them. The Coast Guard views the following safety requirements as key in this type of system equivalency evaluation: the human interface required by the operator to control the system: the operational complexity and increased burden placed on the operating crew as a result of working with an inherently complex system that would increase the probability of a spill due to human error; the added potential for fire and explosion, including the performance of the inert gas and vapor recovery systems (if installed) once the alternative measure has been installed; the adverse impact on intact and damage stability; the adverse impact the installed alternative measure has on structural strength, including sloshing loads and the need to fit large structural fixtures in existing tank structures; and the overall consideration of the operational history of the alternative and its components.

The Coast Guard received several comments which suggested that response systems be fitted as alternative measures to the ones proposed in the NPRM. These systems have already been evaluated in ''Discharge Removal Equipment for Vessels Carrying Oil'' (58 FR 67988; December 22, 1993). The alternatives considered in this SNPRM are passive pollution prevention systems, not spill response systems which require human or machine intervention following a collision or grounding. The Coast Guard has implemented several response oriented requirements including Vessel Response Plans (58 FR 7424; February 5, 1993) and the discharge removal requirements and believes that the structural measures intended by section 4115(b) should be addressed through vessel design or passive protection.

6. Phase-in Alternatives and Economic Incentives

The Coast Guard received several comments regarding the 3-year phase-in provision that was proposed in the NPRM. One comment stated that the 3-year phase-in period would result in the acceleration of shipyard schedules, higher costs, and tonnage restraints. The comment contended that the 3-year phase-in schedule would be economically overburdensome on the tankship owner because it would require many vessels to be removed from normal service to perform the modifications required by the proposed rulemaking. The assessment for this SNPRM reflects cost estimates associated with removing the vessel from service for an extended shipyard period. However, no shipyard scheduling constraints were considered. Comments on this phase-in cost and specific shipyard availability constraints are solicited.

Many comments expressed concern that the original proposed 3-year phase-in period was too generous. One comment expressed concern that no action would be taken by industry and the Coast Guard to reduce oil spills and pollution during this period. Other comments stated that the proposed phase-in period penalizes operators who have already invested in modern double hull vessels because it reduces the cost of single hull vessel operation. One comment contended that a vessel should be required to retrofit during the regularly scheduled drydocking period which immediately follows the issuance of the final rule.

The Coast Guard has taken action to implement interim measures for existing tank vessels by issuing regulations for emergency lightering equipment and advanced notice of arrival requirements (59 FR 40186; August 5, 1994) and proposing regulations for operational measures (60 FR 55904; November 3, 1994; STD). These two efforts will reduce the risk of oil discharges from existing tank vessels that do not have double hulls, regardless of the outcome of the feasibility assessment for structural measures. Since a tank vessel on an ocean or international route is required by its flag administration or classification society to drydock twice every 5 years, the 3-year phase-in schedule proposed in the NPRM reflected an implementation period comparable to one for the regularly scheduled drydocking period immediately following the issuance of the final rule. The Coast Guard requests comments on the economic feasibility of the 3-year phase-in period versus a 5-year period or a 1-year period. Comments are also requested on an appropriate phase-in period for those measures that do not require drydocking. The regulatory assessment for this SNPRM estimates that a 60,000 dwt pre-MARPOL vessel's annualized value and cost is $273,000 less for its estimated 5 remaining years than its counterpart double hull vessel which can operate indefinitely.

One comment stated that the 3-year phase-in schedule for Regulation 13G is flawed. The comment contended that newer vessels should be allowed a longer time period to comply with the proposed structural requirements. The comment stated that for these vessels, the risk to the environment should be commensurately lower, provided the vessels have been properly maintained. Oil outflow can be reduced even on newer single hull vessels meeting MARPOL 73 or MARPOL 78 requirements as shown by the regulatory assessment in this SNPRM. While it is true that the oil outflow reduction benefits presented in this SNPRM for vessels fitted with SBT or CBT are less than for pre-MARPOL tankers, they exist. Comments are requested on possible phase-in periods for vessels fitted with SBT or CBT that, in light of the benefit analysis presented in this SNPRM, would be economically feasible.

One comment contended that the phase-in period would place U.S. vessels at a significant disadvantage in relation to foreign vessels. The comment stated that U.S. vessels were required to retrofit SBTs in accordance with the Port and Tanker Safety Act of 1978, and would already be in compliance with the proposed SBT requirements of the NPRM. The comment indicated that the proposed phase-in period would provide foreign vessels with additional time to retrofit SBTs. Section 4115(b) of OPA 90 requires the Coast Guard to issue this rulemaking so that it is economically feasible for both U.S. and foreign tank vessels. The Coast Guard solicits comments on the economic feasibility of a phase-in period for foreign tank vessels that is shorter than 3 years.