

Deck Runoff Discharge Summary

Description of Discharge

How is this discharge generated? Deck runoff is an intermittent discharge generated when water from precipitation, freshwater washdowns, wave action, or spray falls on the exposed portion of a vessel such as a weather deck or flight deck. This water is discharged overboard through deck openings and washes overboard any residues that may be present on the deck surface. The runoff drains overboard to receiving waters through numerous deck openings.

Which vessels generate this discharge? All vessels of the Armed Forces produce deck runoff.

How often and where is this discharge generated? This discharge occurs whenever the deck surface is exposed to water, both within and beyond 12 n.m.

Preliminary Analysis

Nature of Discharge: Contaminants present on the deck originate from topside equipment components and the many varied activities that take place on the deck. This discharge can include residues of gasoline, diesel fuel, Naval distillate fuel, grease, hydraulic fluid, soot, dirt, paint, glycol, cleaners such as sodium metasilicates, and solvents. A number of metal and organic pollutants may be present in the discharge, including silver, cadmium, chromium, copper, nickel, lead, benzene, ethylbenzene, toluene, xylene, polycyclic aromatic hydrocarbons, and phenol. Mass loadings and concentrations of these constituents will vary with a number of factors including ship operations, deck washdown frequency, and the frequency, duration, and intensity of precipitation events. Based on the results from limited sampling from catapult troughs (a component of runoff from aircraft carrier flight decks), oil and grease, phenols, chromium, cadmium, nickel, and lead could be present in this discharge at levels exceeding acute Federal criteria and State acute water quality criteria. If not properly controlled, oil collecting in catapult troughs can cause deck runoff from aircraft carrier flight decks to create an oil sheen on the surface of the receiving water, which would violate State water quality criteria. The following table lists the concentrations of constituents expected to exceed acute Federal criteria and State acute water quality criteria based on two sampling events of the catapult trough drains.

Constituent	Sample Concentration (mg/L)*	
	4/13/94	4/14/94
Date:	4/13/94	4/14/94
Cadmium	0.155	0.141
Chromium	0.103	0.088
Copper	<0.050	<0.050
Lead	26.1	76.3
Nickel	1.9	1.81
Oil and grease	9683	13919
Phenols	4.6	5.3
Silver	<0.050	<0.050

* Samples taken from catapult trough drains

Discussion and Preliminary Discharge Determination

Discussion: Armed Forces vessels already institute certain management practices intended to reduce the amount of pollutants discharged in deck runoff, including keeping weather decks cleared of debris, immediately mopping up and cleaning spills and residues, and engaging in spill and pollution prevention practices. These practices demonstrate the availability of controls to mitigate adverse impacts from deck runoff.

**Deck Runoff
Discharge Summary (continued)**

Discussion and Preliminary Discharge Determination (continued)

Preliminary Determination: A marine pollution control device is required.

Note

The analysis presented in this summary is based on information currently available. As such, this analysis is preliminary in nature, and is subject to change as additional information becomes available. Likewise, the determination presented in this summary is preliminary in nature and may change prior to final rulemaking.