



## NRC WA PRC Application

March 16, 2026

### Attachment F-12 - Aerial Surveillance

NRC meets all aerial surveillance planning requirements under WAC 173-182-320 and WAC 173-182-321 by maintaining contracted access to qualified aviation providers, trained aerial observers, and established procedures that ensure rapid and compliant response capability. NRC has aircraft, personnel, training, tools, and documented processes necessary to acquire, interpret, record, and communicate aerial spill intelligence in support of Unified Command. Through contracted hour-6 and hour-12 aviation partners, locally trained aerial spotters, and standardized observation equipment and documentation systems, NRC ensures that aerial surveillance assets and personnel are available and capable of supporting Washington State spill response operations within the required timeframes.

#### WAC 173-182-321 Hour 6 Capabilities

NRC has a contract in place with Capriccio Leasing LLC providing access to one (1) helicopter and two (2) fixed wing assets located in Washington state, all of which can reach NRC covered planning areas within six (6) hours of spill notification. Specifications of these aerial assets are as follows:

Specifications	Cessna 182 G Skylane	Cessna Cardinal RG
Tail number	N2131R	N1871Q
Top speed, at sea level	170mph	180mph
75% power @ 6500'	5.7 hours	5.6 hours
Fuel Capacity (usable)	79 gal	60 gal
Cruise @ 75% power	925 miles	945 miles
Range (no reserve)	1215 miles@ 10,000'	1210 miles
Time (no reserve)	10.0 hours	8.7 hours
Cruise Speed	121 mph	139 mph
Gross weight	2800 lbs.	2800lbs.
Empty weight (approx)	1700 lbs.	1660 lbs.
Engine	Continental O-470-R	Lycoming fuel injected
Rated HP	230 @ 2600 RPM	200 @ 2700 RPM



If additional aerial assets are needed, NRC would contract with one of the local aircraft companies listed below:

NAME	TYPE	CONTACT
Kenmore Air Seattle, WA	Float plane	425-486-1257
NW Seaplanes Renton, WA	Float plane	425-277-1590
Classic Helicopters Seattle, WA	Helo	206-767-0515
Hillsboro Hillsboro, WA	Helo and Fixed Wind	800-891-3790
Helicopters Northwest Seattle, WA	Helo	206-767-0508

NRC has a Memorandum of Understanding with Leading Edge who provides air operations services using small uncrewed aircraft systems (sUAS), trained aerial spotter personnel, aerial data processing systems, and by supporting Incident Command System (ICS) operations as an air operations resource. Leading Edge has been evaluated by NRC and found to be suitable and qualified to staff the position of Air Operations Branch Director (AOBD) under the ICS as described in NRC’s state approved vessel contingency plan (C-Plan).

NRC also has access to over 70 Spotter Aircraft throughout the United States at 48 different aircraft staging bases. All aircraft staging bases meet the specifics of individual NRC contracted aircraft requirements, including runway composition, runway length and optimal proximity to possible spill event sites.

The following local NRC personnel and contractors are trained in aerial observation to a minimum level of federal regulations 33 C.F.R. 155.1050 (I)(2)(iii) and capable of directing on-water recovery:

Name	Home Base	Aerial Spotter Training
Dale Raymond	Portland	33 C.F.R. 155.1050 (I)(2)(iii)
Capriccio Leasing	Seattle	33 C.F.R. 155.1050 (I)(2)(iii)
Polaris Applied Sciences	Seattle	33 C.F.R. 155.1050 (I)(2)(iii)
Leading Edge	Seattle	33 C.F.R. 155.1050 (I)(2)(iii)

In addition, NRC trainer spotters located in Texas (1), Florida (2) and New York (4) and are available as needed for aerial observation operations. At a minimum, NRC Spotter Personnel are trained in:

- ASTM assessment “Standard Practice for Reporting Visual Observations of Oil on Water”
- Estimation of slick size, thickness, and quantity
- NOAA’s “Open Water Oil Identification Job Aid for Aerial Observation”



- NOAA's "Characteristic Coastal Habitats" guide
- Trained in Aerial Oil Surveillance Training provided by U.S. Coast Guard (USCG) D13 – District Response Advisory Team (DRAT)

NRCES maintains a flight gear backpack in its Seattle office outfitted as an Aerial Go-Bag containing aerial observation and communications equipment, tools and resources for use by spotters to acquire, interpret, record and disseminate oil location, environmental conditions, operational status and other information as applicable to the command post or field operations. The Aerial Go-Bag will be delivered to the appropriate airport with the following:

- Gear Bag – Flight Gear
- Digital Thermal Binoculars
- Digital Camera and Case
- Open Water Oil Identification Job Aid (NOAA)
- Marine VHF Frequency List
- Pocket Charts - Puget Sound, Washington Coast, Grays Harbor
- LED Flashlight
- Aviation Headset Bluetooth Capable – Lightspeed
- Binoculars – 8x32
- Clipboard
- Documentation Supplies
  - Pens/Pencils
  - Charting Tools
  - Note Pads
  - Handheld GPS - Garmin
  - GRPs

NRC spotters will utilize the ATN BINOX-THD 640 2.5-25x Digital Thermal Binoculars as needed for aerial observation and oiling assessment. Capabilities include 1080p full HD, geo-tagged IR video and photos, built-in GPS, altimeter, electronic compass and digital zoom providing latitude, longitude, altitude, azimuth, bearing and time and thermal imaging. The digital camera, which provides time and date stamp, is included in the package to augment photo documentation capabilities.

NRC spotters will use cell phone or radio to communicate with command post or field operations. NRC cell phones and GPS units also provide latitude, longitude, position, azimuth, altitude and bearing. Spotters will use the NOAA OIL SPILL OBSERVATION CHECKLIST included in the Open Water Oil Identification Job Aid (NOAA) (Exhibit 1) as the guideline for documenting aerial observations on the appropriate charts, including operations, oil location and extent of oiling and environmental impacts.

### **WAC 173-182-321 Hour 12 Capabilities**

NRC has two agreements in place providing 12-hour aerial surveillance capabilities.

### **Florida Air Transport Inc. - Emergency Standby Services Contract**

The contractor maintains dedicated, fully outfitted, and crew-ready aircraft located in California, Florida, and Hawaii that meet rapid activation requirements. All aircraft are required to be



airborne within two hours of notification, with one designated aircraft capable of launching within one hour. This activation capability supports Washington's requirement for aerial assets to be available on-scene within 12 hours. All listed aircraft maintain sufficient endurance to sustain operational missions for at least seven continuous days once deployed.

- Douglas DC-4 stationed at Merced Air Force Base in Atwater, California.
- Three Convair 340 aircraft stationed at Executive Airport in Opa-Locka, Florida.
- Douglas DC-6 stationed at Dillingham Air Base in Hawaii.
- Mitsubishi MU-2 twin turboprop aircraft stationed at Opa-Locka, Florida for spotting and observation roles.

### **Fair Lifts Helicopter Services - Master Services Agreement**

FairLifts provides a broad range of helicopter and drone-based capabilities that directly support aerial observation, reconnaissance, and situational awareness needed for spill response. Their services are offered through a nationwide network of aviation partners, enabling rapid mobilization to Washington State.

- Maintains a large North American network of helicopters available for rapid repositioning into Washington State.
- Provides aerial surveys, oil-tracking overflights, HD photo/video, GIS mapping, and thermal/IR imaging depending on mission requirements.
- Uses low-altitude, hover-capable helicopters that can perform detailed shoreline and on-water observation.
- Can mobilize trained aerial observers/spotters who record latitude/longitude, azimuth, altitude, bearing, estimated extent of oiling, and time/date as required by WAC aerial surveillance standards. [regulation...justia.com]
- Operates a fleet of drones (25+) capable of high-resolution surveys and real-time situational assessment to augment crewed aircraft.
- Demonstrates strong aviation logistics support—including FAA filings, ferry-time optimization, and complex flight plan coordination—to ensure aircraft can arrive within required response windows.
- Supports night/low-visibility operations when equipped with sensor packages such as thermal/IR to meet the 12-hour "strategic aerial picture" requirement in WAC 173-182-321(3).
- Provides trained pilots and operators with experience in environmental and emergency assessment missions.



## EXHIBIT 1

### OIL SPILL OBSERVATION CHECKLIST

Record information on chart of area being observed.

#### General Information

- Date
- Time (start/end)
- Case Name
- Information filled out by (name/phone)
- Observers' names
- Observers' affiliations
- Location of source (if known)
- Percent coverage
- Stage of tide (flood, ebb, slack)
- On-scene weather (wind, sea state, visibility)
- Platform (helo, fixed-wing, boat)
- Flight path/trackline (from GPS)
- Altitude observations were made from
- Areas not observed (fog, restricted air space, shallow water)

In planning flight path/trackline, plan the track so as not to take pictures looking into sun; get the best window seat; avoid midday light to minimize reflection; communicate with the pilot at all times, have access to GPS (lat/long), and go beyond impacted areas to ensure that there is not more oil beyond these areas.

#### Oil Observations

- Slick location(s)
- Slick dimension(s)
- Orientation of slick(s)
- Distribution of oil (streamers (st), convergence zones (co), windrows (wr), patches (pa), tarballs (tb), no structure (ns))
- Color & appearance (silver/gray (S), rainbow (R), metallic (M), transitional (T), dark (D), mousse (E))
- Percent coverage (estimate of area with oil. See Percentage Coverage Chart.)
- Is oil recoverable? (black and transitional oil, mousse, heavy metallic slicks from diesel or oil)

Clearly describe (draw on map or chart) where oil is observed, or if the oil slick consists of a number of smaller slicks, consider flying the perimeter of both the entire slick and the smaller slicks with a GPS in Track mode. Also identify where no oil is observed.

#### Other Observations

#### Response Operations

- Skimmer deployment (General locations. Are skimmers in highest concentration of oil?)
- Boom deployment (General locations. Does boom contain oil? Is oil entraining under boom?)
- Source (Status of source. Is oil still being released?)

#### Environmental Observations...

- Location of convergence lines, rip tides, sediment plumes, coastal currents, and river/tidal estuary



- discharges
- \_\_\_ Location of kelp beds, seagrass (anything which might trap oil or be mistaken for oil)
- \_\_\_ Wildlife present in area (give location and approximate numbers of birds and marine mammals)

### **DOCUMENTATION GOALS**

**Simplicity:** Use standard terms. Use Data Logs and Field Report Forms. Limit the number of tasks assigned to each observer.

**Brevity:** Use codes and keyed annotations. Avoid photo-saturation and lengthy videos.

**Neatness:** Print neatly. Use a pencil with eraser. Key lengthy annotations/notes on separate form.

**Accuracy:** Be mindful of limitations and end-use. Ensure that Date/Time are on for cameras and other data logging equipment. Time-link everything!

**Scale:** Include common objects in images. Maintain and record desired altitude. Shoot close to vertical and note “dip” angles. Sketch to scale.

**Redundancy:** Periodically photograph notes and GPS with time. Hand-record key digital/electronic data.