CHEMICAL COUNTERMEASURE CHECKLIST

A. COMPILE DATA

1. Spill Data

- Circumstances
- Time/date of incident
- Location
- Type of oil product
- Volume of product released
- Total potential of release
- Type of release (instantaneous, continuous, etc.)

2. Characteristics of Spilled Oils

- Specific gravity
- Viscosity
- Volatility
- Light, Medium, or Heavy

3. Weather and Water Conditions/Forecasts

- Air temperature, wind speed, direction
- Water conditions (including turbidity)
- Water temperature
- Water depth
- Stream Gradient
- Stream flow
- Dam releases
- Substrate type

4. Oil Trajectory Information

- 48-hour surface oil trajectory forecast
    - Surface area of slick
    - Expected conditions of landfall

- 48-hour dispersed or chemically treated oil trajectory forecast
    - Oil movement in water column
    - Surface oil movement and expected landfall
    - Concentration of the dispersant/oil mixture in the water column

CHEMICAL CHARACTERISTICS

	Product 1	Product 2	Product 3
Chemical Name Trade Name Manufacturer When Available Location Characteristics: - toxicity - effectiveness - reactions - applicability - flash point Amount Available Type of Containers Application Methods Benefits to Problem (e.g., reduce vapor, increase viscosity)			

TRANSPORTATION AND EQUIPMENT

	Company 1	Company 2	Company 3
Name Location Equipment Available Transportation of Equipment			

5. Comparison of the Effectiveness of Conventional Clean Methods vs. Use of Chemicals

- Containment at the source
- Burning
- Shoreline protection strategies
- Shoreline cleanup strategies
- Time necessary to execute response

6. Habitats and Resources at Risk

- Shoreline habitat type and area of impact
- Resources
    - Endangered/threatened species
    - Critical habitat for the above species
    - Waterfowl use
    - Shellfish
    - Finfish
    - Description of fauna/flora present
    - Commercial use
    - Public use areas
    - Other resources of significance

7. Other Users of the Water: Nearby and Downstream

- Water supply, potable
- Water supply, industrial
- Rafting and/or Sporting Outfitters
- Irrigation (i.e. agricultural use)
- Other Recreational Users

8. Bioremediation Considerations

-Desirability and feasibility of on-site treatment
-Removal efficiencies
-Cleanup levels determined by state, local, tribal, or federal agencies
-Depth of contaminants
-Relative cost
-Burden to water resource availability (if applicable)
-Impacts to natural resources

B. RECOMMENDATIONS

1. Possible Options
   - Do not use chemicals
   - Use chemicals on a trial basis
   - Disperse or chemically treat in limited defined areas
   - Disperse or chemically treat to maximum extent possible With accepted methods and available equipment

2. Other Recommendations/Rationale

C. EVALUATION OF DECISION

1. Will application remove a significant amount of the slick from the surface water?

2. Can the extent or location of shoreline impacts be altered in a positive manner?

3. Can the damage to endangered/threatened species, mammals, and waterfowl be lessened?

4. Will the damage to habitats and resources resulting from the chemical use be less than those resulting without the use?

5. If recreational, economic, and aesthetic considerations are a higher priority than natural resource considerations, what is the most effective means of their protection?

D. MONITORING OF CHEMICAL USE

1. Records

   - Chemical brand
   - Equipment and methods used in application
   - Dilution of chemical prior to application, if any
   - Rate of application
   - Times and area of application
   - Wind and wave conditions during application

2. Effectiveness - visual and photographic documentation

   - Oil before and after chemical application
   - Resurfacing of dispersed or chemically treated oil
   - Sampling of the water beneath the oil slick and the oil/chemical combination to determine the level of petroleum hydrocarbons in the water

3. Environmental Impacts - visual and photographic surveys

   - The extent of shoreline impact by chemically treated and untreated oil
   - Mortality or abnormal behavior of fish, birds, or mammals
   - Comparison of shoreline areas impacted by oil and oil/chemical mixtures
   - Analysis of oil concentrations in sediments under chemically treated oil

- Investigation of water column organisms for signs of adverse impact due to chemically treated oil
- Collection and analysis of birds affected by chemicals or oil/chemical mixture

4. Public Health

-Sampling water supplies for petroleum and chemical constituents