

**Table 1. Effluent levels from Offshore Oil and Gas Development**

| Parameter   | Guideline  |
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| <b>Drilling Fluids and Cuttings – NADF</b>  | 1) NADF – re-inject or ship-to-shore, no discharge to sea.<br>2) Drilled cuttings – re-inject or ship-to-shore, no discharge to sea except: <ul style="list-style-type: none"> <li>• Oil concentration lower than 1% by weight on dry cuttings</li> <li>• Hg – max 1 mg/kg dry weight in stock barite</li> <li>• Cd - max 3 mg/kg dry weight in stock barite</li> <li>• Discharge via a caisson at least 15 m below sea surface</li> </ul>   |
| <b>Drilling fluids and cuttings – WBDF</b>  | 1) WBDF – re-inject or ship-to-shore, no discharge to sea except: <ul style="list-style-type: none"> <li>• In compliance with 96 hr. LC-50 of SPP-3% vol. toxicity test first for drilling fluids or alternatively testing based on standard toxicity assessment species<sup>a</sup> (preferably site-specific species);</li> </ul> 2) WBDF, fluids and cuttings– re-inject or ship-to-shore, no discharge to sea except: <ul style="list-style-type: none"> <li>• Hg – 1 mg/kg dry weight in stock barite</li> <li>• Cd - 3 mg/kg dry weight in stock barite</li> <li>• Maximum chloride concentration must be less than four time’s ambient concentration of fresh or brackish receiving water</li> <li>• Discharge via a caisson at least 15 m below sea surface</li> </ul> |
| <b>Produced water</b>   | Reinject. Discharge to sea maximum one day oil and grease discharge should not exceed 42 mg/l; 30 day average should not exceed 29 mg/L.   |
| <b>Completion and Well Work-over fluids</b>   | Ship-to-shore or reinject. No discharge to sea except: <ul style="list-style-type: none"> <li>• Maximum one day oil and grease discharge should not exceed 42 mg/L; 30 day average should not exceed 29 mg/L</li> <li>• Neutralize to attain a pH of 5 or more</li> </ul>  |
| <b>Produced Sand</b>  | Ship-to-shore or reinject. No discharge to sea except when oil concentration lower than 1% by weight on dry sand.  |
| <b>Hydrotest water</b>  | <ul style="list-style-type: none"> <li>• Send to shore for treatment and disposal</li> <li>• Discharge offshore following environmental risk analysis, careful selection of chemicals</li> <li>• reduce use of chemicals</li> </ul>  |
| <b>Cooling Water</b>  | The effluent should result in a temperature increase of no more than 3° C at edge of the zone where initial mixing and dilution take place. Where the zone is not defined, use 100 m from point of discharge.  |
| <b>Desalination Brine</b>   | Mix with other discharge waste streams if feasible. <sup>b</sup>   |
| <b>Sewage</b>   | Compliance with MARPOL 73/78 <sup>b</sup>  |
| <b>Food waste</b>   | Compliance with MARPOL 73/78 <sup>b</sup>  |
| <b>Storage displacement water</b>   | Compliance with MARPOL 73/78 <sup>b</sup>  |
| <b>Bilgewater</b>   | Compliance with MARPOL 73/78 <sup>b</sup>  |
| <b>Deck Drainage</b> (non-hazardous and hazardous drains)   | Compliance with MARPOL 73/78 <sup>b</sup>  |
| Notes:<br><sup>a</sup> 96-hr LC-50: Concentration in parts per million (ppm) or percent of the Suspended Particulate Phase (SPP) from sample that is lethal to 50 percent of the test organism exposed to that concentration for a continuous period of 96 hours.<br><sup>b</sup> In nearshore waters, carefully select discharge location based on environmental sensitivities and assimilative capacity of receiving waters |  |