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1. Introduction

Since early 2010 Oil Spill Response Ltd (OSRL) have been undertaking a project to strengthen and future-proof our global dispersant delivery capability. For many years this capability has been provided by the Hercules aircraft. The new service will be provided by two Boeing 727 aircraft which will come into service early 2016.

The Boeing 727-2S2F(RE) jet aircraft will be in service for the next 10 years, as engine and airframe spares continue to be widely available. As the aircraft reaches the end of its operating life, a number of airframes of similar configuration could be adapted in the same way.

There are two Aircraft G-OSRA / G-OSRB. The primary aircraft will have the Tersus spray system permanently installed in case of response. The secondary aircraft will be on 48hr notice as it is expected to be used for commercial cargo freighting to keep operating costs down and to maintain crew currency. The Tersus system consists of 7 no. dispersant tanks, 1 x pump module and 1 x service pallet, with ancillaries and ground loading dispersant equipment. The aircraft will be based at Doncaster Sheffield Airport (Robin Hood Airport) with a stockpile of dispersant (Dasic Slickgone NS) in the event of a mobilisation.

Oil Spill Response maintains a response ready state for all aerial dispersant operations.

Purpose

The mobilisation and logistics Planning Guide is an aid to assist the planning and understanding of the processes for the mobilisation and initial deployment phases of the B727 Tersus dispersant system. This helps to ensure that operational capability is delivered on time, as efficiently as possible to arrive at the spill site during the optimum dispersant window. The guide covers details of the following:

- Technical specifications
- Mobilisation instructions
- Flight times to various destinations
- Flight clearances and permits
- What OSRL will supply
- What support is required from the client
- Dispersant
## 2. Technical Specification

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>727-2S2F(RE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tail Number</td>
<td>G-OSRA and G-OSRB</td>
</tr>
<tr>
<td>Operator</td>
<td>2Excel Aviation Ltd</td>
</tr>
<tr>
<td>Base</td>
<td>Doncaster Sheffield Airport (DSA) EGCN</td>
</tr>
<tr>
<td>Call Sign</td>
<td>Broadsword xx</td>
</tr>
<tr>
<td>Crew</td>
<td>2 pilots and 1 flight engineer</td>
</tr>
<tr>
<td>Range</td>
<td>Approximately 2500 nm unladen.</td>
</tr>
<tr>
<td>Communication</td>
<td>Aviation VHF (OSRB also has HF(^1)), satellite phone</td>
</tr>
</tbody>
</table>

\(^1\) G-OSRA does not have an HF radio and the aircraft is subject to some flight restrictions. G-OSRB does not have any restrictions on flight routes. (See Section 5 for more information).
Other Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>153ft</td>
</tr>
<tr>
<td>Wingspan</td>
<td>108ft</td>
</tr>
<tr>
<td>Height (fin)</td>
<td>34</td>
</tr>
<tr>
<td>Empty weight</td>
<td>97,471lbs</td>
</tr>
<tr>
<td>Max payload</td>
<td>56,672lbs</td>
</tr>
<tr>
<td>Max fuel load</td>
<td>54,304lbs</td>
</tr>
<tr>
<td>Max Take-off weight</td>
<td>203,100lbs</td>
</tr>
</tbody>
</table>

Max payload 56672 (lbs) 25,707kg

Cargo Hold

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main deck volume</td>
<td>4667 cu ft</td>
</tr>
<tr>
<td>Lower deck volume</td>
<td>1466 cu ft</td>
</tr>
</tbody>
</table>

Useable volume

Main deck consists of 12 freight bays: 11 fitted for 88”x125” pallets, and 1 for a 60.4”x125” pallet

System installed

TERSUS 15000 litres

Runway requirements

6000ft 1,828m Concrete/Asphalt

For Aircraft Classification Number (ACN) and Pavement Classification Number (PCN) please contact OSRL.

Table 1: Technical Specification

<table>
<thead>
<tr>
<th>Description</th>
<th>Empty²</th>
<th>Full</th>
<th>Dispersant configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Range</td>
<td>2500Nm</td>
<td>2250Nm</td>
<td>1400Nm with spray booms fitted</td>
</tr>
<tr>
<td>Transit speed</td>
<td>480kts TAS</td>
<td>480 kts TAS</td>
<td>270kts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Spray speed ~150kts</td>
</tr>
</tbody>
</table>

Table 2: B727 Range

Caveat: These are indicative figures only all details will depend upon temperature, altitude, weather, payload etc. Contact OSRL for exact timings if required. The spray booms will be fitted upon arrival in country before first spray operations.

² The 727 cannot take off part full it can only take off with a full tank or an empty tank of dispersant. There are no restrictions on landing.
3. Mobilisation

OSRL Members may mobilise the Dispersant Service by calling Oil Spill Response at the Southampton number provided.

Notify Oil Spill Response Duty Manager: +44 (0) 23 8033 1551

The Duty Manager will call back to the number(s) provided, and will request all relevant information plus the Mobilisation Authorisation Form signed by Nominated Authority. A delay in providing these forms may possibly delay the response.

The Duty Manager will contact 2Excel Aviation Ltd to notify and/or mobilise the aircraft. The Duty Manager will promptly follow the call to mobilise with an email detailing location, type of mobilisation this will act as financial authority to mobilise personnel and equipment. The Aircraft will be response ready in 4hrs which includes fuelling and dispersant loading (if necessary).

An Aircraft work order must be provided prior to take off which will be provided by OSRL.

Mobilisation Type

In the case of a potential incident the OSRL Duty Manager will contact 2Excel Aviation and give them prior notice. The Duty Manager has two options in regards to the aircraft.

Notify: Mobilise all resources and apply for over flight clearances but does not call the crew (so crew hours do not start counting down)

Scramble: Same as above but crew are notified—really only to be used in Europe where over flight permits and landing permits are unlikely to cause an issue.

The B727 is response ready in 4 hours which includes fuelling and if required, dispersant loading.

Aircraft Location

The aircraft are located at Doncaster Sheffield Airport (DSA)
Hangar 1
Second Avenue
Doncaster Sheffield Airport
DN9 3GE

Doncaster airport is a 24-hour licensed aerodrome
Assessment of severity and strategy selection using NEBA

Are Oil Spill Response Tier3 dispersant services required?

Yes

Notify Oil Spill Response Duty Manager: +44 (0) 23 8033 1551

Discuss requirements for example
- Aerial Dispersant Application
  - Dispersant required
  - Quantity to be loaded
  - Spray arm configuration

Email Mobilisation Authorisation Form signed by Nominated Callout Authority to Oil Spill Response Duty Manager:

southamptondms@oilspillresponse.com

Assist in obtaining Required Clearances

Mobilise:

Maintain contact with Oil Spill Response Duty Manager

No

Notify Oil Spill Response Duty Manager and consider the need for standby or potential to escalate. Continue to monitor and evaluate situation

Information required:
- Oil Spill Response Notification Form
- Oil Spill Response Notification Form

Contact Oil Spill Response Duty Manager for list of Nominated Callout Authorities if required

Liaise with Oil Spill Response Duty Manager

Yes

Notify Oil Spill Response Duty Manager: +44 (0) 23 8033 1551

Discuss requirements for example
- Aerial Dispersant Application
  - Dispersant required
  - Quantity to be loaded
  - Spray arm configuration

Email Mobilisation Authorisation Form signed by Nominated Callout Authority to Oil Spill Response Duty Manager:

southamptondms@oilspillresponse.com

Assist in obtaining Required Clearances

Mobilise:

Maintain contact with Oil Spill Response Duty Manager

No

Notify Oil Spill Response Duty Manager and consider the need for standby or potential to escalate. Continue to monitor and evaluate situation

Information required:
- Oil Spill Response Notification Form

Contact Oil Spill Response Duty Manager for list of Nominated Callout Authorities if required

Liaise with Oil Spill Response Duty Manager

Yes

Notify Oil Spill Response Duty Manager: +44 (0) 23 8033 1551

Discuss requirements for example
- Aerial Dispersant Application
  - Dispersant required
  - Quantity to be loaded
  - Spray arm configuration

Email Mobilisation Authorisation Form signed by Nominated Callout Authority to Oil Spill Response Duty Manager:

southamptondms@oilspillresponse.com

Assist in obtaining Required Clearances

Mobilise:

Maintain contact with Oil Spill Response Duty Manager

No

Notify Oil Spill Response Duty Manager and consider the need for standby or potential to escalate. Continue to monitor and evaluate situation

Information required:
- Oil Spill Response Notification Form

Contact Oil Spill Response Duty Manager for list of Nominated Callout Authorities if required

Liaise with Oil Spill Response Duty Manager
4. Indicative Flight Times

![Map showing flight times and availability for spray operations]

<table>
<thead>
<tr>
<th>Destination</th>
<th>B727 Flight Time</th>
<th>Available to Spray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada—Vancouver</td>
<td>14 hrs 50</td>
<td>Day 2</td>
</tr>
<tr>
<td>USA—Miami</td>
<td>14 hrs 30</td>
<td>Day 2</td>
</tr>
<tr>
<td>Brazil—Rio De Janeiro</td>
<td>56 hrs 40</td>
<td>Day 3</td>
</tr>
<tr>
<td>Nigeria—Lagos</td>
<td>14 hrs 20</td>
<td>Day 2</td>
</tr>
<tr>
<td>South Africa—Johannesburg</td>
<td>19 hrs 20</td>
<td>Day 2</td>
</tr>
<tr>
<td>Tanzania—Dar es Salaam</td>
<td>15 hrs 20</td>
<td>Day 2</td>
</tr>
<tr>
<td>Bahrain—Bahrain</td>
<td>12 hrs 20</td>
<td>Day 1</td>
</tr>
<tr>
<td>Kazakhstan—Alma</td>
<td>8 hrs 35</td>
<td>Day 1</td>
</tr>
<tr>
<td>Uzbekistan—Sofrman</td>
<td>14 hrs</td>
<td>Day 2</td>
</tr>
</tbody>
</table>

- **B727—Doncaster Airport**: 4 hrs mobilisation
- **IAR Hercules—Singapore**: 6 hrs mobilisation
- **Crew Rest Stop**: 2 hrs
- **Refuelling Stop 1 hr**:
- **Destination**

Figure 1: Indicative Flight times for the B727 and Tersus system and availability for spray operations
The flight times detailed should be used for guidance purposes only and are subject to obtaining flight clearances, landing permits, ground handling time, adverse weather conditions or any other unforeseen circumstance which could delay the flight. As with any response there will be factors outside of our control which could affect the response times and every endeavour will be taken to ensure a timely mobilisation.

Table 3: B727 Flight times
5. Flight Clearances

Before leaving the UK, OSRL will raise the flight tasking for the aircraft from the information
gathered by the client and mission parameters. 2Excel has low flying permits to enable the
spraying to be conducted. It is always necessary for 2Excel to file flight plans and request
necessary permits by liaising with the appropriate aviation authorities.

Overflight permits would be required for the 727 which will be attained by 2Excel/agents on
behalf of the operator, for transit to the spill location.

Landing permits and authorisation to operate in country will be
required upon arrival and it is expected that the client/local
subsidiary will liaise with the relevant authorities to assist with the
necessary permits where possible. OSRL will assist the client in
attaining preauthorisation for aerial dispersant operation as far as
reasonably practicable.

6. Crew

The 2Excel Aviation crews are on standby 24 hours a day, all of which are currently British
nationals. In a mobilisation the primary aircrew would transit to the spill location and do not
require in country visas for the first 72 hours, and after this period the aircrew would need
visas to remain in the country.

The secondary crew would fly to the spill location commercially ahead of the 727 where
possible (either on a chartered flight or private dependent upon cost and urgency) so that
they can be rested before the 727 arrives, so as not to delay the transit and response as far
as reasonably practicable. Under EASA regulations any travel for the aircrew counts towards
their working hours, even in business class or first class. This is due to commercial cabins not
being approved as rest facilities for aircrew. Therefore they should be sent at the earliest
opportunity to ensure the second aircrew can get into country and complete their rest
period before taking over piloting from the first crew.

There is no charge for the mobilisation of a second crew. A
Member requiring a second crew will be charged for their travel,
accommodation and subsistence.
The Tersus system must not be modified or operated by anybody except the flight crew or an aviation qualified engineer as any changes could affect the licensing for the dispersant spray system. In the event of a mobilisation an aviation engineer will be sent on a commercial flight to meet the aircraft in country to maintain the aircraft and spray system during a response. The spray arms will be reconnected in country upon landing by a qualified aviation engineer and connection takes approximately 1 hour.

To enable a timely response support would be expected from the client/OSRL to expedite the visa process where possible for both aircrews as this a determining factor in getting the crew and aerial dispersant in country and ready to respond.

Passengers are not permitted in the cargo section of the aircraft due to the nature of the spray system and CAA licensing. The aircrew will consist of two pilots, one flight engineer with one spare seat in the cockpit. This seat would normally be occupied by an OSRL mission specialist

**Crew hours**

As a basic rule the EASA Flight Time Limitations stipulate that aircrew can work 12 hours and then must have 12 hours rest before re-commencing work. The crew can work this pattern for a maximum of seven days before they are required to have one day rest. Having a second crew available will alleviate this problem.
### 7. Responsibility Matrix

<table>
<thead>
<tr>
<th>Task</th>
<th>OSRL</th>
<th>Aircraft Operator</th>
<th>Service Subscriber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notification of Incident</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notification form &amp; Signed mobilisation form</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generate flight tasking and generate over flight/aircraft work order</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over flight clearances/landing permits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issuing of Letters of Invitation (LOI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applying for necessary visas and work permits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport handling &amp; refuelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chartering aircraft for dispersant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance of aircraft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spider track coverage of flights</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal Reporting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Booking of any commercial flights and accommodation for air crew and observers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assistance with expediting visa applications for air crew and personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modelling support for tracking spilled oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Has no responsibility / is unable to assist.</td>
<td>Assistance may be required to complete the task.</td>
<td>Has full responsibility / is the only party who can complete the task.</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Spotter aircraft (WACAF/UKCS Aircraft could be used in a response if the member subscribes to this service)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authorisation to operate in country</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply of daily cost sheets and invoicing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demobilisation from the incident including signed demobilisation form</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide Purchase Order Number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paying the operator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Notice drills</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Responsibility Matrix
8. Spidertrack

Spidertrack is a programme that OSRL use to track the B727 aircraft when it is on a sortie. A link will be forwarded to the member to allow observation of the aircraft’s flight path.

![Spidertrack Example](image)

**Figure 2: Example of a spider track of an aircraft on a sortie**

9. Dispersant

The Tersus system can hold 15m$^3$ of dispersant and can fly fully laden to any spill location. The weight of the dispersant does not affect the air speed of the aircraft but the overall range is reduced from 2500nm to 2250nm before needing to refuel. To ascertain whether it is more efficient to fly with dispersant or charter a cargo aircraft to country will depend upon several variables including:

- Reduced distance of the 727 with full payload and its effect on response times
- Scale and duration of the response
- Availability of dispersant in country
- Availability of charter aircraft
- Dispersant type required and approval for use in the system
- Flight times for chartered aircraft transporting dispersant
Dispersant Approval List

- Agma DR379
- Corexit EC9527A
- Corexit EC9500A
- Finasol OSR 51
- Finasol OSR 52
- Slickgone L7SW
- Slickgone NS
- Superdispersant 25
- Inipol IP80

Aerial dispersant Authorisation

OSRL can provide as much assistance as possible with aerial dispersant operations preapproval through logistics technical support and documentation. Technical liaison support can be provided to assist with preapproval with the regulator. OSRL are able to conduct regulator workshops to provide information and operational considerations on dispersant which will assist in preapproval discussions between the operator and regulator. OSRL is a key technical partner of the GI WACAF project and provides important knowledge and expertise to help raise levels of oil spill preparedness with regulators and operators under an established partnership framework in the WACAF region.

Supply Chain

For an extended response and to ensure the availability of dispersant for ongoing aerial spraying operations a continual supply of dispersant will be required either from in country or through OSRL SLA stockpiles (Additional OSRL stockpiles are available for subscribers). This can be organised through OSRL but needs to take into account the limitations of flying liquid cargo on commercial aircraft.

Due to a Service Letter from Boeing Commercial Aviation Services there is a current advisory on all Boeing aircraft for a limit on liquid cargo to 42% of the total cargo. This may reduce the availability of aircraft and result in higher chartering costs to move the same amount of cargo on alternative air platforms i.e. Airbus, Antonov, Ilyushin.
OSRL work closely with our air charter broker to ensure that equipment can be mobilised around the world as quickly as possible, this is regularly tested through exercises and spills. We have a global contract signed with our charter brokers and agreed aircraft charter terms which means that we can normally respond as soon as an aircraft is available and the mobilising member has given written authorisation for the costs, the maximum time for us to receive flight options in a spill is six hours.

Although it is subject to fluctuating aviation markets and aircraft availability we would expect to have an aircraft available and loaded with dispersant within 24-48 hours. During this time we would also have all import paperwork completed including Commercial Invoices and Airway Bills, if any extra paperwork were required (such as Certified Certificates of Origin or translations) this will increase the mobilisation time.

OSRL also have agreements in place with hauliers at every SLA base to ensure that we can meet the required aircraft arrival times.

The table below gives an indication of dispersant quantities that can be carried in various cargo aircraft:

<table>
<thead>
<tr>
<th>Aircraft type</th>
<th>Estimated number globally for cargo</th>
<th>Estimated short notice spill availability</th>
<th>Cargo capacity (tonnes)</th>
<th>Capacity following Service Letter (tonnes)</th>
<th>World coverage (potential)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boeing 747 / 777</td>
<td>150</td>
<td>10</td>
<td>100-150</td>
<td>42-50</td>
<td>Global</td>
</tr>
<tr>
<td>Antonov 124</td>
<td>24</td>
<td>2-3</td>
<td>100</td>
<td>100*</td>
<td>Global</td>
</tr>
<tr>
<td>Antonov 225</td>
<td>1</td>
<td>1</td>
<td>250</td>
<td>250*</td>
<td>Global</td>
</tr>
<tr>
<td>Ilyushin IL 76</td>
<td>7 (that can land in the UK)</td>
<td>1-2</td>
<td>45</td>
<td>45</td>
<td>Global – shorter journeys</td>
</tr>
<tr>
<td>MD11</td>
<td>9</td>
<td>1-2</td>
<td>85</td>
<td>85</td>
<td>Africa centric with some USA</td>
</tr>
</tbody>
</table>

*These figures may reduce due to volume constraints and are subject to an ongoing investigation into pressurisation of fields.

Table 5: Air cargo carrier global availability indicative estimates
Within the SLA dispersant stockpile there is 700m$^3$ of dispersant and the client would have access to 50% of this stock. The 727 system is able to hold 15m$^3$ of dispersant per sortie and the table below shows an example mobilisation of dispersant to the Republic of Congo and availability of SLA dispersant.

<table>
<thead>
<tr>
<th>Day</th>
<th>Operation (subject to timings)</th>
<th>Dispersant used</th>
<th>Dispersant in Congo (at end of day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Notify OSRL of spill, Client signs charter agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mobilisation and loading of aircraft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Arrival of 42 tonnes of dispersant in Congo, 1 x spray sortie with 727 and mobilisation of a second aircraft for transport</td>
<td>1 x spray sorties using 15m$^3$</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>Mobilisation of third aircraft for dispersant transport</td>
<td>2 x spray sorties using 27m$^3$</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Second aircraft arrives in Congo with 42 tonnes of dispersant</td>
<td>2 x spray sorties using 30m$^3$</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>Third aircraft arrives in Congo with 42 tonnes of dispersant. Mobilisation of fourth aircraft.</td>
<td>2 x spray sorties using 30m$^3$</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>Mobilisation of fifth aircraft</td>
<td>2 x spray sorties using 24m$^3$</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>Fourth aircraft arrives in Congo with 42 tonnes of dispersant. Mobilisation of sixth aircraft.</td>
<td>2 x spray sorties using 30m$^3$</td>
<td>12</td>
</tr>
</tbody>
</table>
### Table 6: Example mobilisation of dispersant to the Republic of Congo

<table>
<thead>
<tr>
<th>No.</th>
<th>Event Description</th>
<th>Dispersant Spraying</th>
<th>Refuelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Fifth aircraft arrives in Congo with 42 tonnes of dispersant</td>
<td>2 x spray sorties using 30m$^3$</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>Sixth aircraft arrives in Congo with 42 tonnes of dispersant. Mobilisation of seventh and eighth aircraft</td>
<td>2 x spray sorties using 30m$^3$</td>
<td>24</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>2 x spray sorties using 24m$^3$</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Arrival of seventh and eighth aircraft carrying a total of 84 tonnes of dispersant</td>
<td>2 x spray sorties using 30m$^3$</td>
<td>54</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>2 x spray sorties using 30m$^3$</td>
<td>24</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>2 x spray sorties using 24m$^3$</td>
<td>0</td>
</tr>
</tbody>
</table>

(This table is subject to aircraft availability and number of spray sorties required. It also assumes that the entire OSRL SLA dispersant stockpile is permitted for use in Congo).

**Dispersant Spraying and Refuelling**

Upon conducting a spray run if there is dispersant available at the airport the aircraft can be reloaded in 40-60 minutes if being filled by individual IBCs, but this will depend on the location of the dispersant stockpile and ground handling assistance. If there is an ISO tank available with dispersant it can be completed in approximately 20 minutes. The 727 crew will reload the dispersant and OSRL personnel in country can assist with the loading to maximise the number of sorties possible and ensure an efficient turn around time. The aircraft would be refuelled between each sortie to ensure a full spray run could be conducted. It is expected that the 727 would normally achieve three sorties a day but this is dependent upon dispersant supply, ground handling facilities, distance of the spill site from the runway, airport traffic, weather etc.

In the event that all the dispersant has not been used in a spray sortie it is possible for the B727 to land with the remaining dispersant without contravening its operating licence and permits.
Spotter Aircraft

The B727 can operate on spray sorties without a spotter aircraft but as the spray runs need to be conducted at 160ft it would be challenging for the crew to judge the point to commence spraying.

The use of a light aircraft would be the primary option for use as a spotter due to the difficulties with vessels observing oil on the water. The main requirements needed of the spotter aircraft is sufficient communications between the two aircraft so they can be directed towards any spill, enough endurance for a single spray operation before needing to refuel and space onboard for an OSRL trained observer. The aircraft will communicate on normal Aviation Band VHF which is 118.0-136.975 MHz.

If available a spotter aircraft could be used to direct the B727 into location which would increase the effectiveness of the dispersant runs and ensure the B727 is on target. The client would have to provide this in country were possible. Unless they are a subscriber to the WACAF or UKCS service

10. Costs

In the event of a mobilisation the below fees will be due from the client to conduct aerial dispersant operations or be available on standby in country:

- Daily standby fee $9000 (after 10 days increases $16500)
- Response flights $8250 per hour (subject to a minimum charge of the daily stand by fee)

The above rates apply in respect of 'normal' response operations where the aircraft is deployed and utilised for up to a maximum of 10 days. Daily charges for non flying standby periods of greater than 10 days duration where the aircraft flies on average for less than 2 hours per day during that period will be charged at $16,500 per day and will require special consideration.

Direct operating costs will be charged as incurred to Members, including but not limited to fuel and handling charges. Non-members will be charged an additional 15% administration fee to these direct operating costs.

To give indicative costs for each sortie with dispersant, at March 2016 prices, the client would be charged:

- Correxit 9500 - $153,574
- Slickgone NS - $48,239
11. Additional Information

Table Top Exercises

During any table top exercise the service subscriber can call through to the duty manager to get real time flight information to any location with the 727 free of charge. We can also arrange actual participation of the B727 in a client exercise at published response rates.

Training

OSRL are responsible for the training of their air contractors and OSRL conduct operational training sessions each year to simulate aerial dispersant spraying. The training includes:

- Aerial dispersant spraying (using water)
- Use of surveillance equipment
- Coordination with spotter aircraft
- Coordination with vessel operations
- Data management

The training is backed up with drills and no notice exercises to ensure their level of understanding of what is expected and their ability to produce the deliverables within the time frame agreed between OSRL and the air contractor.