

## Standard Operating Procedure (SOP)

# **[REDACTED] Refuelling Process for Diesel**

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# [REDACTED] - Fuel Refuelling Process for Diesel

## Description of Work

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Use this procedure to monitor and supervise the delivery and pumping of diesel fuel at DUB56/DUB66

 Important: Diesel tank farm composed of 9 diesel tanks. Each of the diesel tank at the DUB56/DUB66 location consist of a 69000-litre capacity double-walled, steel above-ground storage tank for fuel.

**Important:** Do not perform this procedure if you are not qualified.

Before starting this procedure, note the following guidelines:

- Always work safely and prioritize safety over performance and speed.
- Always follow all applicable [Environmental documentation](#).
- Provide security with the names of vendors and support services that will be on site to assist with this procedure.
- Follow the correct escalation path to ensure the right personnel are notified at the right time. If you don't know the correct escalation path for this emergency, contact the Facility Operations Center (FOC) at [REDACTED] and the site's facility manager (FM) for guidance.

## Safety Requirements

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Follow the [Safety Briefing](#) procedure to identify safety hazards and correctly mitigate those hazards to minimize risk to personnel.

- For assistance understanding the safety requirements for this procedure, contact your regional safety engineer at [REDACTED], or go to [REDACTED] to access data center safety documentation.

## Important Indicators and Acronyms

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The following indicators identify critical steps in this SOP:

Graphic Symbol	Indicates
	Change of state
	Safety alert
	Rollback here, if necessary
	Stop, validate/verify/go no go
	Important note

For acronyms and abbreviations that aren't defined in this procedure refer to the [DCEO Terms and Acronyms List](#)

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## Vendor Information

If a vendor is participating in this SOP, provide the following information (add rows as necessary):

Item	Description
Company Name	[REDACTED]
Service Contact Information (24x7)	[REDACTED] [REDACTED] [REDACTED]

**Note:** Ensure vendors are briefed on the work they will be doing. Vendors must review Safety, Security, and other DC rules.

## Employee Information

Provide information about everyone participating in this SOP (add rows as necessary).

Group	Name / title	Alias/Contact #	Role	Initials
<b>Internal (blue badge)</b>				
	EOT		Checks and rollback	
	EOT		Monitoring BMS	
<b>External (Vendor)</b>				
	Driver		Delivering fuel	
<b>Escalation Contacts</b>				

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## Expected Alarms

Provide a complete list of all alarms expected to occur during this procedure.

## Affected Equipment

List all equipment that will be worked on, shut off, or locked out during this procedure.

Equipment Name	Manufacturer	Model #	Serial #	Rating/Capacity m <sup>3</sup>
Diesel tank 1	Buttimer engineer	BS2654	1646	
Diesel tank 2	Buttimer engineer	BS2654	4030-01	
Diesel tank 3	Buttimer engineer	BS2654	4075-01	
Diesel tank 4	Buttimer engineer	BS2654	4235 0001	
Diesel tank 5	Buttimer engineer	BS2654	4277-01	
Diesel tank 6	Buttimer engineer	BS2654	4306-01	
Diesel tank 7	Buttimer engineer	BS2654	4323-01	
Diesel tank 8	Buttimer engineer	BS2654	4343-01	
Diesel tank 9	Buttimer engineer	BS2654	4331-01	








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## Required PPE, Tools, and Materials






List the personal protective equipment (PPE), tools, and materials needed to do this procedure.


PPE/Tools/Materials	Reason needed
Laptop	BMS - To ensure that the Diesel level does not exceed limits
Universal Panel Key	To open Fuel connection point enclosure on diesel yard
Safety glasses	General PPE
Safety Boots	General PPE
Hi-Visibility Clothing	General PPE
nitrile or latex gloves	General PPE
Aprons (optional)	General PPE
Spill Kit	To prevent or contain diesel spills.

## Pre-Work and Mitigation Steps

Section 1: Perform Pre-Work and Mitigation Steps				Completed by AWS
Step	Location	Equipment	Action/Task	Initials
1.0.	DCEO Office	N/A	  DCEO to assess MCM and ensure risk assessment has been provided for unloading fuel.	
1.1.	DCEO Office	N/A	  Verify proper safety equipment and additional forms/permits.	
1.2.	DCEO Office	N/A	 Check local weather conditions.	
1.3.	DCEO Office	N/A	 Prior to the arrival of the fuel delivery contractor, notify security personal.	
1.4.	DCEO Office	N/A	 Points to note for the diesel delivery system. <ul style="list-style-type: none"> <li>• <b>Refill diesel tank`s until 85% of total capacity</b>, unless specified differently for Chief engineer</li> <li>• Diesel tanks actuator closes at 90% of each tank`s total capacity.</li> <li>• High alarm at 95% of each Diesel tank`s total capacity.</li> </ul>	

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1.5.	DCEO Office	N/A	  Monitoring of the Fuel Fill Panel and BMS is essential to ensure that during filling a faulty actuator will not result in overfilling of the tank and diesel in the bunded area.
1.6.	DCEO Office	BMS/Fuel Fill Panel	<ul style="list-style-type: none"> <li>• Take note of how many litres are in Diesel tank ST-101 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-201 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-301 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-401 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-501 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-601 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-701 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-801 _____ Litres.</li> <li>• Take note of how many litres are in Diesel tank ST-901 _____ Litres.</li> </ul> <p style="text-align: center;">Total Fuel Level: _____ Litres</p>
1.7.	DCEO Office	N/A	Calculate how many litres are required and inform the driver _____ Litres.
1.8.	DCEO Office	N/A	Identify the role of each person participating in the procedure, and identify each person's assigned location and each person's roles/responsibilities.  Additional personnel may be required for monitoring of BMS.
1.9.	At fuel reloading bay	Diesel cabinet	 Ensure that there are no works taking place in the immediate area.
1.10.	At fuel reloading bay	Diesel cabinet	 Check Diesel pipework and filling area have no leaks.
1.11.	At fuel reloading bay	Diesel cabinet	Ensure that the delivery driver has the correct adapter for [REDACTED] diesel fill pipe.
1.12.	Diesel farm / Office	Laptop/ BMS	Ensure Diesel farm BMS is being monitored.











**Summary: Pre-work data is collected. Safety meeting is conducted. Roles and responsibilities are assigned. Teams have been notified.**

**If any discrepancies are found in steps 1.0 through 1.11, immediately stop and escalate**




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## Procedure








Section 2: Procedure - Filling of Generator Fuel Tanks				Completed by AWS
Step	Location	Equipment	Action/Task	Initials
 <b>Minimum PPE Required: Safety Boots, Safety glasses, Hearing protection.</b>				
   If at any point in this section the tank over fills proceed to Section 4: Rollback—.				
2.1	Security Gate	N/A	When fuel vendor arrives on site, Security personnel must notify AWS personnel of all fuelling activities and remain present during all fuelling activities.	
2.2	Security Gate	N/A	 DCEO personnel will obtain a bill of lading from the fuel vendor truck operator to verify that it specifies the correct fuel product (ultra-low sulphur diesel fuel) and specify the volume to be delivered.	
2.3	Security Gate	N/A	AWS Security personnel unlock gate (as applicable) and direct the driver to the fuel reloading bay	
2.4	At fuel reloading bay	N/A	Fuel delivery vendor turns off truck motor unless required for unloading.	
	At fuel reloading bay	N/A	 Wear proper personal protective equipment (PPE)—high visibility vest, safety boots, safety glasses, and safety gloves.    Ensure spill kits are fully stocked, including drain plugs.	
2.5	At fuel reloading bay	N/A	DCEO to deploy Barrier & Signage prior to fuelling	
2.6	At fuel reloading bay	N/A	DCEO to perform checks on Fuel delivery driver: <ul style="list-style-type: none"> <li>• Level of English is adequate;</li> <li>• That the driver has a valid ADR Card;</li> <li>• The driver is familiar and trained with loading and unloading processes;</li> <li>• That the traffic management arrangements have been communicated to and understood, including pedestrian interfaces;</li> <li>• That the driver is informed verbally of the local site hazards;</li> <li>• That a DSG note is provided;</li> </ul>	








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			<ul style="list-style-type: none"> <li>• Transport documents to be provided.</li> </ul>	
2.7	At fuel reloading bay	N/A	 Conduct a safety inspection of the delivery area: <ul style="list-style-type: none"> <li>• Ensure there is a serviceable fire extinguisher available on the fuel truck and in the generator enclosure.</li> <li>• Smoking or any activity that can cause sparks or flames is prohibited during fuel transfer operations.</li> <li>• Cover all down-gradient storm drains prior to fuelling activities. Appropriate covers, mats and drain plugs to be deployed to form active secondary containment.</li> <li>• Ensure mats are placed under all fuel delivery pipe joints</li> <li>• Ensure appropriate spill control equipment is readily available to clean up small spills, which at a minimum will include granular absorbent, absorbent pads and booms, shovels, and an empty drum.</li> </ul>	
2.8	At fuel reloading bay	Fuel connection panel (FM-01-FO)	DCEO personnel will unlock and open the fuel connection point cabinet (M-01-F0) door using Universal Panel Key and check that a drip tray is in position beneath the fuel hose connection.	
2.9	At fuel reloading bay	Fuel connection panel (FM-01-FO)	Fuel delivery vendor removes the cam lock cap that covers the fuel line.	
2.10	At fuel reloading bay	Fuel connection panel (FM-01-FO)	<p>Fuel delivery vendor connects the hose to the fuel line</p>  <b>keep the main lever valve (F0-36) closed.</b>	
2.11	At fuel reloading bay	Diesel cabinet	 DCEO personnel will verify the current amount of product in each diesel tank by indication on corresponding control panels located inside level indicator panel <p>Fuel Level: _____ Litres</p>	

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2.12	At fuel reloading bay	N/A	DCEO will verify delivery volume with Truck Operator. Truck Operator will adjust unloading pump to load the Diesel tanks with only the requested and verified volume.  Expected Fuel Delivery: _____ Litres	
2.13	Diesel farm	Diesel tank	Remove the settable ball valve safety lock of the manual fill valves above each tank that doesn't need to be refuelled and close the valve. The only valve that should remain open is the tank that is been refuelled at that moment.   The top of the tank is not flat and might be wet. Use hand rails at all times.	
2.14	At fuel reloading bay	Fuel connection panel (FM-01-FO)	  Fuel delivery vendor opens the main lever valve ( <b>F0-36</b> ) in fuel connection panel and can commences refuelling   In the event of a spill proceed to the rollback steps.  In the event of a Fuel High Level alarm immediately secure fuel loading.	
2.15	At fuel reloading bay	Control Panel/BMS	DCEO continuously monitors the BMS and Fuel Fill Panel during refuelling to ensure tanks do not overfill.	
2.16	At fuel reloading bay	N/A	When designated Diesel Tank has reached its required level, vendor should stop refuelling process.	
2.17	At fuel reloading bay	N/A	Repeat steps <b>2.13</b> to <b>2.16</b> for each designated diesel tank.	
2.18	DCEO Office	BMS	 If a high-level alarm is triggered, or there is a spill or leak happens, DCEO will stop work immediately and assess the reason for alarm prior to deciding to continue refuelling	
2.23	At fuel reloading bay	Fuel connection panel	DCEO will supervise as the Truck Operator disconnects loading hose, ensuring that all product remains in the hose or is contained in the spill container (if applicable) and secures the fill cap back on the fuel tank inlet.	
2.24	At fuel reloading bay	Fuel connect panel (FM-01-FO)	DCEO to ensure that all fuel ports are secured after fill is complete.	

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2.25	N/A	At fuel reloading bay	 Check fuel reloading bay tank to ensure all areas have no spills	
2.26	At fuel reloading bay	N/A	<p> Truck operator cleans up any oil spills, including any product contained in the spill container (if applicable) before leaving area. Prior to departure, the driver and DCEO personnel are required to do a visual walk around inspection of the fuel truck.</p> <p>  DCEO personnel must file trouble ticket if any spill was observed.</p>	
2.27	At fuel reloading bay	Diesel Fill Pipe Connection	DCEO personnel shall verify condition of fill pipe area to ensure that any spills have been addressed. DCEO personnel shall document this information on the bill of lading.	
2.28	DCEO Office	Permit Folder	DCEO shall retain copies of the bill of lading and fuel loading receipt in the Permit to Operate binder.	
2.29	At fuel reloading bay	N/	DCEO to Remove any barrier deployed storm drain covers, and pink mats.	
 <b>Stage Summary: Filling of Generators tank Diesel Tanks has been completed.</b>				

## Validation Steps

Section 3: Verify Normal Operations				Completed by AWS
Step	Location	Equipment	Action/Task	Initials
3.1.	At fuel reloading bay	Laptop/ BMS	Fuel Fill Panel and BMS shows each tank laver valve in the closed position.	
3.2.	DCEO Office	Excel	Fill readings/ match vendors readings.	
3.3.	At fuel reloading bay	Sop	There are no leaks in the at fuel reloading bay.	

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3.4.	At fuel reloading bay	BMS and Control Panel	Take note of how many litres are in each main tank _____ Litres.	
3.5.	At fuel reloading bay	Delivery docket	Take note of how many litres delivered by the driver _____ Litres.	

**! Stage Summary: Validation data is collected. Filling has been completed and delivery quantity verified.**

**Rollback Steps**

Section 4: Rollback—Rollback—				Completed by AWS
Step	Location	Equipment	Action/Task	Initials
4.1.	DUB56/ DUB66	SPCC Plan	In the event of a spill, refer to the SPCC Plan and follow the instructions. Notify CE, FM and Regional Environmental Engineer.	
4.2.	Diesel Fill and Gen Yard	Fill point And Gen	Perform spill clean-up if required.	
4.3.	Diesel Fill	Fuel Actuator	In the event of a Fuel Actuator failing to close by operation of HMI at Fuel Fill Panel. Manually CLOSE each Fuel Actuator as illustrated in step 2.11.	

**! Stage Summary: Delivery has been halted and issue escalated.**

**Technical / Related Documentation**

Title	Issue/Revision

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## Comments

Following the procedure, use this section to identify any issues or additional information for future use.

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## Document Information

Version	Date	Author(s)	Approved by	Approved by
1.0	19/07/22	██████████		