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Standard Operating Procedure (SOP)

[redacted] Diesel Delivery (Fill) For Main Tanks for [redacted] Engines.

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Description of Work

Use this procedure for Diesel fuel fill on [redacted] site .

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

[redacted] Diesel Delivery (Fill) For Main Tanks for [redacted] Engines.

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

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.

This procedure includes:

- Working at heights with fall hazards greater than 6 feet/1.83 meters, not including ladders (refer to the Safety Briefing for detailed instructions)
- Only required staff should be in the area during testing.

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Important Indicators and Acronyms

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.

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]

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

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Employee Information

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

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

Expected Alarms

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

No expected alarms

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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
Main Diesel Tank Manual Valves				
Main Diesel tank Actuators				

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 fuel 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.

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Pre-Work and Mitigation Steps

Section 1: Perform Pre-Work and Mitigation Steps				Completed by AWS
Step	**Location**	**Equipment**	**Action/Task**	☑
1.1.	Office	N/A	Print off Diesel ADR Checklist from Policy and Complete before proceeding	☐
1.2.			Points to note for the diesel delivery system. • Actuator closes at 85% of tank total capacity. • High alarm at 90% of tank total capacity. • High high alarm at 95% of tank total capacity. • Alarms are not local and are only received on BMS (So BMS monitoring is essential)	☐
1.3.	Office	N/A	Monitoring of 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.	☐
1.4.	Office	N/A	If there is no wifi reception on the top of the tanks then monitoring of BMS will need to be carried out by a second EOT. If BMS monitoring is remote ensure a clear line of communication is available and working.	☐
1.5.	Office	N/A	If monitoring of the BMS for the tank farm area is not available or has timed out then stop and escalate.	☐
1.6.	Office	BMS	Take note of how many liters are in each main tank _____ Liters.	☐
1.7.	Office	N/A	Calculate how many liters are required and inform the driver _____ Liters.	☐
1.8.	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.	Tank Farm		Ensure that there are no works taking place in the immediate area.	☐
1.10.	Tank Farm	Diesel tank farm	Check Diesel bund and filling area have no leaks.	☐
1.11.	Tank Farm/ Office	Diesel tank farm/ BMS	Ensure interceptor tank is free of alarms.	☐
1.12.	Tank Farm	Diesel fill center	Ensure that the delivery driver has the correct adapter for our diesel fill pipe.	☐
1.13.	Tank Farm/ Office	Laptop/ BMS	Ensure the tank farm BMS is been monitored.	☐

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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 1.1 through 1.13 immediately stop and escalate

Procedure

Section 2: Procedure - Filling of Main Diesel Tanks				Completed by AWS
Step	**Location**	**Equipment**	**Action/Task**	☑
			If at any point in this section the tank over fills proceed to **Section 4: Rollback—.**	
2.1.	Tank Farm	Diesel Tanks and walkway	There are a lot of steps and metal gantry's might be wet. Use hand rails at all times. 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	☐
2.2	At fuel reloading bay	N/A	Fuel delivery vendor turns off truck motor unless required for unloading.	
2.3	At fuel reloading bay	N/A	DCEO to deploy Barrier & Signage prior to fueling	
2.4	At fuel reloading bay	N/A	DCEO to perform checks on Fuel delivery driver: • Level of English is adequate; • That the driver has a valid ADR Card; • The driver is familiar and trained with loading and unloading processes; • That the traffic management arrangements have been communicated to and understood, including pedestrian interfaces; • That the driver is informed verbally of the local site hazards; • That a DSG note is provided; • Transport documents to be provided	
2.5	At fuel reloading bay	N/A	Conduct a safety inspection of the delivery area: • Ensure there is a serviceable fire extinguisher available on the fuel truck and in the generator enclosure. • Smoking or any activity that can cause sparks or flames is prohibited during fuel transfer operations. • Cover all down-gradient storm drains prior to fuelling activities. Appropriate covers, mats and drain plugs to be deployed to form active secondary containment. • Ensure mats are placed under all fuel delivery pipe joints	

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			• 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.	
2.6	At fuel reloading bay	DUB8 Fuel connection panel	DCEO personnel will unlock and open the fuel connection point cabinet door using Universal Panel Key and check that a drip tray is in position beneath the fuel hose connection. Fuel delivery vendor removes the cam lock cap that covers the fuel line. Fuel delivery vendor connects the hose to the fuel line	
2.7	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	
2.8	Tank Farm	Diesel Tank Fill valves	Check that all valves on the feed into the bottom of the main diesel tanks are in the open position.	☐
2.9	Tank Farm	Main Diesel Tank Fill Valve	Δ Open the Main Manual fill valve adjacent to the diesel filters at the start of the line of tanks beside tank C1	☐
2.10	Tank Farm	BMS/Walk through	Let the driver know that he can start the filling operation	☐
2.11	Tank Farm	Diesel Tanks	Position EOT1 beside tank C1 valve and close that valve when tank reaches 90% on tank gauge. Move on to next tank and continue in this manner up to tank 8B closing each valve in turn when the tank gauge reaches 90%.	☐
2.12	Tank Farm/ Office	Laptop/ BMS	EOT2 Monitor the BMS tank levels and the filling operation to prevent overfilling. Instruct driver to shut off pump in the event of any spillage/overfill/BMS overfill alarm. DCEO will stop work immediately and assess the reason for alarm prior to deciding to continue refuelling Δ Note: The BMS will send a signal to shut down the filling pump in the event of a tank High High alarm, approx 92% but the EOT must still monitor the procedure carefully.	☐
2.13	Tank Farm	Diesel Tank Fill valves	Δ Ensure to close all valves at 90% full.	☐
2.14	Tank Farm	Diesel Tanks	Move to C2 tank, this is the last one in the line. Position EOT1 beside tank C2 valve and close that valve when tank reaches 60% on tank gauge. (this is because this is a 15,000 Litre Tank)	
2.15	Tank Farm	Diesel Tanks	Instruct the driver to stop filling.	☐
2.16	Tank Farm	Diesel Tanks	Starting at C2 tank re-open each feed valve for each tank working back to tank C1.	
2.17	Tank Farm	Diesel Tanks	The tanks will settle to an average by gravity	
2.18	Tank Farm	Diesel Tanks	When EOT1 reaches tank C1 and opens the tank fill valve, the main valve must now be closed.	

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			CLOSE the Main Manual fill valve adjacent to the diesel filters at the start of the line of tanks beside tank C1	
2.19	Tank Farm	Bund and Fill area	Check Diesel bund and filling area have no spill.	
2.20	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.	
2.21	At fuel reloading bay	Fuel connect panel	DCEO to ensure that all fuel ports are secured after fill is complete.	
2.22	N/A	At fuel reloading bay	Check fuel reloading bay tank to ensure all areas have no spills	
2.23	At fuel reloading bay	N/A	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. DCEO personnel must file trouble ticket if any spill was observed.	
2.24	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.	
2.25	At fuel reloading bay	N/A	DCEO to Remove any barrier deployed storm drain covers, and pink mats.	
Stage Summary: Filling of all standalone Main Diesel Tanks has been completed.				

Validation Steps

Section 3: Verify Normal Operations				**Completed by AWS**
Step	**Location**	**Equipment**	**Action/Task**	☑
3.1.	Tank Farm	N/A	Each main tank fill valve is now in the open position.	☐
3.2	Tank farm	N/A	The Main Manual fill valve adjacent to the diesel filters at the start of the line of tanks beside tank C1 is CLOSED	
3.3	Tank Farm	Excel	Fill readings match vendors readings.	☐
3.4	Tank Farm	SOP	There are no leaks in the bund or fill area.	☐
3.5	Tank Farm/ Office	BMS and Readout in tank area if available	Take note of how many liters are in each main tank _____ Liters.	☐

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3.6	Tank Farm	Delivery docket	Take note of how many liters were delivered by the driver _____ Liters.	☐
3.7	Tank Farm/ Office	Laptop/ BMS	BMS shows no Alarms	☐
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**	☑
4.1.	Tank Farm	Diesel Tank fill valve	Δ On the main diesel tank that is over filling, turn off the manual fill valve at the bottom of the tank	☐
4.2.	Tank Farm	Fill point	Δ Alert the driver to stop filling	☐
4.3.	Tank Farm	Diesel Tank fill valve	Check Diesel bund and filling area have no spill.	☐
4.4	Tank farm/Office	SPCC Plan	In the event of a spill, refer to the SPCC Plan and follow the instructions. Notify CE, FM and Regional Environmental Engineer.	
4.5	Diesel Fill and Gen Yard	Fill point And Gen	Perform spill clean-up if required.	
4.6	Tank Farm	Phone/ Radio	Escalate through the proper escalation path	☐
Stage Summary: Delivery has been halted and issue escalated.				

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Technical / Related Documentation

Title	Issue/Revision
<Provide link to TAB data>	

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)	Reviewed by	Approved by
1.0	08/10/ 2022	[redacted]		
1.1	08/10/ 2022	[redacted]		
1.2	08/12/22	[redacted]		