

Fuel Delivery Standard.

Nokia Health Safety & Physical Security.

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1.1	Final Version	21st May 2021	Hugo Tovar	Marty Bishop	Marty Bishop	21st May 2021	Marty Bishop	21st May 2021	Updated version reflecting organizational changes.

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1 Principles

Where the Power grid is not available or is unreliable the use of diesel generators to provide power remains the most common solution, in order to power these generators diesel fuel needs to be supplied to the sites, this process carries safety, security and environmental risks that must be managed:

- All vehicles must be fit for purpose.
- All containers must be fit for purpose.
- The volume and method of transport must be safe.
- All persons must receive training.
- The security aspects of the operation must be assessed, managed and reviewed.
- The likelihood of spills must be minimized.
- The inventory of fuel handled must be able to be tracked and audited.

This Standard details Nokia expectations in relation to Diesel Fuel Delivery. The expectations detailed here apply to all Nokia business groups and all contractors and service providers conducting work on its behalf.

Section 3 Contains the minimum requirements that Nokia expects. If these cannot be achieved an exception needs to be agreed with CPO PE PS&S and documented.

Section 4 Explains who is responsible for ensuring that the requirements are implemented.

2 Key Definitions .

- 2.1 DG – diesel generator.** A diesel generator is the combination of a diesel engine with an electric generator (often an alternator) to generate electrical energy.
- 2.2 Container.** An object for holding or transporting something. In this case applicable to transport diesel.
- 2.3 Jerry Can.** A metal or plastics packaging of rectangular or polygonal cross-section with one or more orifices used for transporting fuel, diesel in this case.
- 2.4 Plastic container.** Any plastic container for liquids, usually with a narrow part at the top that is called the neck.
- 2.5 Intermediate Bulk Container.** Also known as IBC. Is a pallet mounted, industrial grade reusable container that is used for storing and transporting bulk liquids. Total size can be up to 3000 L, however the most common cases are 1040 L and 1250 L.
- 2.6 Bowser.** tank used for fuelling generators and other vehicles. Can be independent (trailer mounted) or self-portable.
- 2.7 Electrical pump –** It's an electrical diesel pump used to transfer diesel from a container to a generator or to fill up a container.
- 2.8 User checks –** checks conducted by the user prior to the vehicle being used. These are standard visual checks that can be conducted by people with minimal levels of training.
- 2.9 Maintenance –** the formal inspection of a vehicle on a planned basis by a qualified person.
- 2.10 Defensive Driver Training –** is an advanced form of training that focuses on anticipation of road conditions and how to react and behave in a way that prevents conflicts and accidents.

3 Requirements.

The requirements listed here apply to all Nokia operations and apply equally to all contractors, suppliers and partners working on behalf of Nokia.

Transport, Storage and Handling of Fuel non-negotiable requirements

3.1 General Road Safety .

All requirements of the Nokia Global H&S Standard on Road Safety Must be applied to all transportation of diesel. This means that all driver, vehicle and journey requirements apply to the transportation of diesel.

3.2 Specific Requirements for Transport of fuel.

When transporting diesel fuel the following requirements must be met:

- The Maximum weight of the fuel load transported must not exceed 75% of maximum load capacity of the vehicle.
- The vehicle must be suitable for transporting liquids, if using small containers, it must have anchor points or separated secure spaces to secure the load.
- Containers must be stored upright and in a separate compartment away from the driver and passengers. This compartment must be sufficiently robust so as to prevent the transfer of fuel from the load compartment to the passenger compartment in the event of a motor vehicle accident.
- The vehicle should have signage indicating the type of substance being transported and any legally required warnings.
- The vehicle storage compartment should be well ventilated to ensure that the diesel fumes do not concentrate inside the vehicle.
- Open flames should not be used near the vehicle.
- It is recommended that an appropriate extinguisher is carried on the vehicle (CO2 / Wet Chemical).

3.3 Transport: Type of containers.

All containers used for the transportation of diesel must be periodically checked for damage, holes, or any other failure that would lead to a leak or spillage. Any damaged container must be discarded and appropriately treated as waste.

All containers must have appropriate design measures to prevent spillages and loss, the level of containment being determined by the risk (quantity, location and use):

- **Primary containment:**
Primary containment means prevention of leaks and spills of the equipment that directly contains the materials being stored or transported.
A tank or equipment intended to serve as the primary container for, or used for the transfer of, a material.
Primary containers may be designed with secondary containment systems to contain or control a release from the primary containment.
- **Secondary containment:**
Secondary containment is essentially the second line of defense if the material containers were to fail.
Secondary containment is the area immediately around those containers which could include booms, drip trays, sumps, expansion vessels, double skinned tanks, structures and ventilation.
- **Tertiary containment:**
Is the third line of defense when primary or secondary containment fails, this is typically only applicable to bulk storage facilities.

3.3.1 Small Containers.

Small containers used for the transport of diesel that may be handled manually must be:

- Not exceed 30 liters in capacity.
- Be of sound construction.
- Have a tightly fitting, reusable and easily fitted sealed lid.
- Be inspected before each use for damage.
- When transported in numbers exceed 6 containers should be stored in a configuration or no more than 2 rows of small containers to allow for safe access.

- Containers must be transported in a single vertical layer – they must not be stacked on top of each other.
- All containers must be properly stored using fixed racks or anchored to a fixed element using straps.
- It is recommended the container to have outlet at the top, avoiding accidental leakage from the bottom.

Small containers are usually known as Jerry Cans (picture below) and can be made of metal or plastic.



Picture 1 – Metal Jerry Can



Picture 2 – Plastic 25L container with sample label

3.3.2 Mid-size containers

Mid-size containers used for the transport of diesel must:

- Be limited to a total capacity of 750 liters of fuel .
- The carrying of fuel over 750 liters is only permitted with a documented risk assessment, vehicle rating confirmation and specific driver training.
- Capacities exceeding 1000 liters must be transported in a specifically designed, self-bunded container and be permanently fixed to the vehicle.
- The total calculated weight of the container, supporting structure and contents must not exceed more than 75% of the vehicles rated load capacity.
- Where capacity of any one container exceeds 500 liters the container must be fitted with internal baffles to minimize internal movement of the liquid.
- Where plastic containers are used a protective framework should be in place to guard against deformation and damage.
- All containers must have a tightly fitting, reusable and easily fitted sealed lid.
- Where possible the extraction point should be the top of the container and be mechanical, meaning that gravity loss is not possible.

3.3.3 Trailer mounted tanks / bowzers

Trailers and bowser mounted tanks must comply with local legislation relating to design, maintenance and labelling and must meet the following specific criteria for the transportation of fuel:

- Not exceed more than 75% of the designated towing vehicles capacity when full

- If any 1 compartment is larger than 500l – be fitted with baffles.
- If exceeding 750kg in total weight be fitted with a braking system.
- Be fitted with a top mounted filling and extract point.
- Be self-bunded where possible.

3.3.4 Container lorries / vehicles.

Large specifically designed tankers or vehicles must be individually assessed for suitability and compliance with local legislation, including specific requirements for maintenance, testing, licenses for operation and the transport of fuel.

3.3.5 Bulk Storage – Containers.

Where fuel is stored for logistics, cost or operational reasons in containers or quantities exceeding 2000 liters the fire, environmental, asset management and security controls must be assessed and documented, with the following basic principles applied as a minimum:

- All containers to be appropriate construction, be well maintained and regularly inspected
- Have sealed filling and extract points to prevent contamination.
- Be located for easy dispensing to extraction – i.e. minimize the length of pipework required to reach collecting vehicles.
- Be fitted with / have built adjacent to permanent, structurally sound ladders and access platforms for all regular and foreseeable operations.
- Where powered extraction systems are installed have easily visible and lockable isolation systems (electronic and mechanical where appropriate).
- Where possible stored above ground and with clear clearance under the structure to enable easy identification of any leaks or damage.
- Where possible be self-bunded or installed in a compound that would act as a barrier to contain the total loss of the stored material.
- Be situated 10 meters or more from any building, structure or operation either posing a significant fire risk or being susceptible to loss in the event of a fire.
- Be covered to shield from weather conditions, where required, insulated to prevent excessive heat buildup and be sufficiently ventilated.
- Be installed more than 10 meters from any watercourse or open drain.
- Have the filling and draw off point at the top of the container.
- Any powered extraction / filling system to be fitted with an auto stop device.
- Have an external gauge / sight tube to enable easy check of levels.
- Be stored in a secure location with security measures appropriate to the risk, preventing unauthorized access to both the location and draw off equipment as required.
- Implement an auditable asset management process – meaning that the quantity of fuel in / out, when and by who should be recorded in a consistent manner.

3.3.6 General Handling of diesel.

Physical contact with fuel should always be minimised by employing the following methods:

- Using appropriate personal protective equipment – gloves, apron and goggles.
- Ensuring that dispensing occurs at or below waist height.
- Wearing a second layer of clothing for conducting fuelling activities (overalls).
- Washing hands with detergent, hand cleanser or wipes after every refuelling task.
- Using hand or electrical pumps for transferring fuel.

Hand pump.

- Hand pump are usually made of plastic (polypropylene) and composed by a telescopic suction tube and pump-handle.

Installation and Commissioning:

- Check operating manual before using the pump.
- Insert and screw the suction tube into the container, making sure it is tight and sealed (screws may be needed). The pump can then be put into operation.
- Push handle several times fast and strong up and down. A minimum level in the container is necessary for the suction process.

Electrical pump.

- Electrical pumps create positive pressure in the lines, moving the fuel. 12 volts pumps are common in markets.

Installation and Commissioning:

- Check operating manual before using the pump.
- Check that the pump has not suffered any damage.
- Clean the inlet and outlet openings with care, removing any dust or packing residue.
- Check that the electrical information corresponds with what is shown on the label.
- Attach the pump using screws.
- Make sure that the tubing and the suction tank are free of dirt and thread residue that could damage the pump and its accessories.
- If the pump is not provided with any filter, consider installing it.
- Use a hose suitable for functioning under suction pressure.

3.3.7 Collection and dispensing.

Collection and dispensing of diesel at a fuel station or a temporary storage location must follow all applicable rules.

General Rules:

- Turn off the vehicle engine. Put the vehicle in park and/or set the emergency brake. Disable or turn off any auxiliary sources of ignition.
- Do not smoke, light matches or lighters while refueling at the pump or when using diesel anywhere else.
- Use only the refueling latch provided on the diesel dispenser nozzle. Never jam the refueling latch on the nozzle open.
- In the unlikely event a static-caused fire occurs when refueling, leave the nozzle in the fill pipe and back away from the vehicle. Notify the station attendant immediately.

3.3.8 Collection from fuel stations, bulk suppliers own bulk storage.

Collection using Containers:

- Only store / transport fuel in appropriate containers.
- When dispensing diesel into a container, use only an approved portable container and place it on the ground to avoid a possible buildup of static electricity.
- Containers should be filled in a bunded location, ideally not in the vehicle.
- When filling a portable container, manually control the nozzle valve throughout the filling process. Fill a portable container slowly to minimize spilling or splattering. Keep the nozzle in contact with the rim of the container opening while refueling.

- Fill container no more than 90 percent full to allow for expansion.
- Place cap tightly on the container after filling - do not use containers that do not seal properly.
- If diesel spills on the container, make sure that it has been cleaned before you place the container in your vehicle.

Any spillage must be conveniently treated using spill kits carried on vehicles or available at fuel stations or temporary storage.
All spillages must be reported to site owner.

3.3.9 Dispensing of fuel from the transported method to the generator in site.

The site risk assessment must consider the refueling activity, this should as a minimum cover:

- The location that the vehicle will be parked.
- The method of transport / dispensing from the vehicle to the generator.
- The manual handling required.
- The risk of spillage / loss of containment.
- Fire hazards.
- Security risks associated with the handling of fuel.
- The environmental damage of any spill – including an estimate of potential spill quantity.
- Where powered pumps are used an automatic shut off device should be installed and all pumps physically isolated (switched off) when not in use.

Spillage Response non-negotiable requirements

3.4 Spillage Response.

The response to a spillage will vary, dependent on the quantity:

- (i) Minor. Less than 1L.
- (ii) Medium. More than 1L and less than 25L.
- (iii) Major. More than 25L.

The location where the spill may occur:

- (i) Fuel station when diesel is being collected.
- (ii) Site when diesel is being transferred to a tank.
- (iii) Intermediate – bulk storage.
- (iv) Accidental spillage as result of road incident.

Minor and Medium spillages or leakages may be resolved by using spill kits, either being carried in the vehicle or located at the filling location.

A Spillage whilst transferring diesel to generator or machinery may be controlled using spill kits carried in the vehicles or stored at site.

Major spills must be treated as major incident, either because of a road accident or when transferring to generators or machinery and must be communicated to the site owner as well as to local authorities and recorded in archer as an environmental incident.

At all bulk fuel storage centers, appropriate spill kits must be in place to contain any spills.

It is recommended a funnel is carried and stored in each vehicle transporting diesel. Depending on the type of container and location, it may be required to avoid spillages and leakages.

In all cases residuals must be properly treated disposed to appropriate sites.

Training non-negotiables

3.5 Training.

Anyone transporting diesel must have received appropriate training.

Related training must cover, as a minimum:

- Risk and preventive measures of handling, transporting and storing diesel.
- General fire prevention training.
- Environment:
 - Risks and preventive environmental measures.
 - Use of spills kits (handling and disposal of).
- Driving:
 - Basic driving training as per Nokia Road Safety Standard.
 - Defensive Driver Training.
 - Use of 4x4 and towing of trailers: additional training is mandatory for 4X4 vehicles and towing of trailers.

Inventory non-negotiables

3.6 Inventory Management.

Robust inventory management is essential for operational and cost control; it also has a role to play in safety, security and environment, therefore a system must be in place that provides up-to-date information about the quantity of diesel stored, transported and being utilised that ensures that:

- The volume of fuel in and out is recorded.
- The person responsible for the fuel can be identified.
- Implement an auditable asset management process – meaning that the quantity of fuel in / out, when and by who should be recorded in a consistent manner.

Collection, Transport and Dispensing inventory requirements.

- Diesel collected from a bulk storage warehouse or petrol station must be recorded and access to that record must be accessible at the vehicle.
- Volume of diesel refuelled at the site must be aligned with what is dispensed at site.
- Signatures (warehouse supervisor and driver) are required.
- Record must reflect collection, transport and dispensing times.

Security non-negotiables

3.7 Security Aspects

Fuel is a valuable commodity, its presence, trading, transport and use in many locations poses a significant security risk, the impact and likelihood of this risk must be assessed by the provider

and where the risk is considered material (in either cost, operational or human terms) a fuel security plan must be implemented that includes, but is not limited to:

3.7.1 Fuel Security Policy.

A fuel security policy and standard operating procedure (SOP) covering fuel equipment (vehicles), transportation and delivery of, and storage of fuel must be defined, approved, published and communicated to employees and relevant external parties. The documents must be reviewed at regular intervals or if significant changes in the environment occur to ensure their continuing suitability, adequacy and effectiveness.

Implementation Guidance.

- At the highest level, the supplier shall define a “security policy” for the equipment, transportation and delivery, and storage of fuel which is approved by management, and which sets out the supplier’s approach to managing its security objectives.
- The fuel security policy should address requirements created by regulations and legislation, and for the transportation, delivery and storage of fuel.
- The fuel policy and SOP must include:
 - Objectives that guide all activities related to the equipment, transportation and delivery, and storage of fuel.
 - Assignment of specific security responsibilities.
 - Responsibilities clearly defined.
 - Process for handling deviations and exceptions to the fuel security policy and/or procedure.
- The SOP must have an owner.
- The SOP must have the highest level of approval from the supplier company.
- The SOP must be communicated to all supplier employees who have responsibility for this policy.

3.7.2 Fuel Security Plan.

A Fuel Security Plan must be defined, approved by management, published and communicated to employees and contractors.

The Fuel Security Plan should detail the actions to be carried out to ensure the security of fuel which includes the equipment used to transport, while in transit, and storage. The Fuel Security Plan should be a living document and shall be tested and reviewed regularly and as required. All staff should have the latest version of the Fuel Security Plan available to them and be aware of its content.

Implementation Guidance

- The type of equipment used to transport the fuel that is compliant to local regulation
- Fuel trucks (or similar equipment) equipped with anti-siphoning nozzles.
- A mechanism that reconciles the amount of fuel loaded into the fuel container with the fuel dispensed at site.
- A reporting process for fuel variance reconciliations of the fuel loaded against fuel dispensed.
- A process to dye fuel for anti-theft purposes.
- On-site generators and storage containers equipped with anti-siphoning devices
- Locks placed on all vehicle and static equipment to include holding tanks, generators etc. to prevent syphoning.

3.7.3 Incident Management

Management responsibilities and procedures must be documented and established to ensure a quick, effective and orderly response to fuel security incidents. Knowledge gained from analyzing and resolving fuel security incidents must be used to reduce the likelihood or impact of future incidents.

Implementation Guidance

- The objectives for fuel security incident management should be agreed with the country project team and it should be ensured that those responsible for fuel security incident management understand the organization's priorities for handling incidents.
- All employees and contractors should be made aware of their responsibility to report fuel security events as quickly as possible. They should also be aware of the procedure for reporting fuel security events and the point of contact to which the events should be reported.
- The reporting mechanism should be as easy, accessible and available as reasonably possible.
- Employees and contractors should be encouraged to note and report any observed or suspected fuel security weaknesses in procedures, projects or services. All employees and contractors should report these matters to their point of contact as quickly as possible to prevent fuel security incidents.

4. Implementation Expectations

- 4.1 Every business group leader must ensure, within their area of responsibility, that the requirements of this Standard are implemented.
- 4.2 CPO PE PS&S must ensure that for every location that Nokia operates in, that the minimum requirements defined in section 3 are defined for local implementation. This can be:
 - 4.2.1 Specific to a country.
 - 4.2.2 Defined across a region where there is regional alignment or Nokia requirements exceed local requirements in all listed areas.
 - 4.2.3 Tailored based on customer requirements or expectations.
 - 4.2.4 Consider local legal requirements and restrictions.
 - 4.2.5 Procurement team must ensure that where companies or individuals are sourced to provide vehicles, drivers or transport that the requirements in section 3 are clearly communicated, understood and that the supplier can meet these expectations when they are awarded work.

5. Recommendations

The requirements listed in section 3 apply to all Nokia operations, but the geographical spread of the business means that the extent of implementation varies. The recommendations contained in this section aim to provide guidance on how to achieve the requirements. Should these be deviated from the decision needs to be documented.

The requirements of this Standard apply to all of these groups, however when approaching implementation this needs to be conducted on a risk-based approach.

In order to determine the extent to which the requirements of this Standard apply each business group should conduct an assessment of the risk posed to their operation,

The requirements in section 3 detail **WHAT** is expected, as the measures needed to reach this Standard vary around the world.

Annex 1.- High Level Risk Assessment

[High Level Risk Assessment](#)