Risk Survey Report

Category Class: 3

Insured Name: Qatar Air Distribution Network QAD-NET
Survey Date: 21-Sep-2023
Report no: QG-SR/2023/09/10958
Location: New Industrial area
Issue Date: 25-Sep-2023
Prepared By: Ayman Salameh

1- Introduction & Business Description

The purpose of this report is to assess the risk and loss control activities with regard to Fire Insurance coverage for insurers and reinsurers. Also, to collect and gather information regarding the general construction, occupancy, operations, maintenance program, any existing hazards and exposure and fire protection system at the risk address, where the report provides a description of the risk address surveyed and give as risk assessment of Probable Maximum Loss – PML with respect to Fire Insurance coverage.

Executive Summary

Qatar Air Distribution Network Manufacturing Factory W.L.L. (QADNET) a major supplier and manufacturer of Central Air Conditioning Products. QADNET was established in 2004 in response to the growing need resulting from the economic boom in the Middle East and particularly in Qatar.

Operation:

QADNET has a manufacturing and assembly workshop facility for Central Air conditioning products added with significant storage capacity for both the raw material and finished goods. Today QADNET is associated with leading brands like Safe Air DOWCO - USA, Commercial Acoustic - USA, Flameshield - United Kingdom, Crayford Techincs Ltd. - United Kingdom, BJC Enterprises Pty Ltd - Australia and many others reflecting its scaled growth and expansion.
QADNET has invested in state-of-the-art machinery and the latest technology, which allows it to produce HVAC products with the highest standard thereby ensuring smooth site co-ordination and installations. All the projects irrespective of their size are undertaken with great attention.

Exposure

The factory building is located approximately 22 kilometers away from Hamad International Airport. The building is surrounded by a concrete fence wall with access controlled through manned gate. The subject factory building is also surrounded by paved roads with easy access to the site, and all adjacent warehouses are located at a minimum distance of 20 meters from the risk addressed.

Construction

The factory building is constructed on steel frame with external 2m high dwarf cement block walls with combustible foam insulated sandwich panel. The warehouse floors are concrete with smooth finish. An office block with ground level is provided within the factory with reinforced concrete slab floor on steel frame internal masonry walls.
Due to the presence of combustible foam core sandwich panel, we consider the entire building to be one fire zone.

Building/ area	Warehouse Building
Story/Levels	Office block constructed of ground. Factory building (ground floor) production lines and engineering office.
Plot area (sqm)	3,985 sqm
Roof height (m) approx.	7 meters
Building structure	Steel & concrete structure
Roof Structure	Steel
Roof	Combustible sandwich panel
Exterior walls	Combustible sandwich panel
Floor construction	Concrete
% Combustible / Non-Comb	50 % Combustible / 50 Non-combustible

2- Risk Data

2.1 Layout and Construction	
Construction type	The factory building is constructed of concrete walls, roof and floor with steel frame structure – ground floor. The external walls are provided with cement block walls with glass window and sandwich panel sheets. The walls of are constructed of concrete and covered by sandwich panel sheets to reduce the temperature inside the building only. The building has a storage area, loading/unloading sections, and a security guard room at the entrance gate.
Number of floors/Levels	The factory building: Ground floor Office building ground floor.
Construction grade	ISO Type 5 Modified or Semi Fire Resistive (MSR or SFR) The roof is constructed of steel frame with sandwich panel sheets.
Distance with adjacent building	15 meters
2.2 Occupancy	
Building summary	The factory building contains storage spaces at the ground floor and production line for AC ducting products, and some final products are kept at the open yard at the entrance.
Plant and Machinery	The warehouse utilizes an electric powered forklift and air-conditioning is provided to factory and office by split units. Cutting machines that used in prefabricated Duct
Production	Prefabricated ducting is manufactured. The factory is used for prefabricated of ducting and assembly of Ducting Networks.
Occupancy	Specialized company is air distribution ducting works where all stock materials are metal sheets and joints. Stock materials are duct accessories, damper, door access, prefabricated ducts, filters, grille and diffusers.
2.3 Utilities	
Power & Water	The power and water supply to the site is provided by the Public Authority Company (Kahramaa)
Transformer	Not Accessible, transformers are under the care, custody and control of Kahramaa.
Cooling/HVAC	Only office are Air-conditioned by AC units installed at the building.

3- Loss Prevention & Mitigation

3.1 Management Program Human Element	
Safety inspection & audit	Implemented
Smoking Policy	Smoking is not allowed, and “No Smoking” signages are posted
Fire doors	Fire doors are installed type FR (90)
Housekeeping	Third party staff in place for general waste collection, where metal skip bins are provided and disposed on daily basis. Overall housekeeping standard is good.
Hazard identification	Yes

3.2 Fire Protection System			
Element	**Yes**	**No**	**Remarks**
Sprinklers	X		
Fire Extinguisher	X		
Hose reel	X		
Hydrants	X		
Smoke Detection	X		
Fire brigade	X		
Emergency response	X		
Call point call	X		
FM-200		X	

Fire pump specification & fire tank capacity	There is a fire pump room located underground. The fire pump consists of electric, diesel and jockey engines. 1250 GPM @ 118 PSI with 2900 RPM. The fire tank size is 57,240 gallons
Fire/Smoke Detection	Automatic fire detection system is installed throughout the building, also beam detection installed within the factory and office building and utility rooms.
Utility Building	Substation, security guard room are constructed with masonry block walls and concrete roof structure.
Fire Brigade	Expected time approximately 15-20 minutes
Compartmentalization	Entire building is considered as **ONE FIRE ZONE**
3.3 Security and access to the building	
Access Control	One gate for entrance and protected by steel metal door
Security personnel	Currently there is security personnel around the clock, provided by contract security staff in two shifts.

4- Exposure and Hazards

4.1 External Exposure	
Neighboring premises exposure	There is significant exposure as there is low hazards neighboring premises and NATCAT exposure. Buildings are not adjacent or closed
Vehicle & Aircraft exposure	Vehicle impact: The building located away from street vehicle and there is access around the building Aircraft: the building located at Industrial area and away from Hamad International Airport it is also considered as **Very Low**
4.2 Internal Exposure	
Activity exposure	The main purpose of the building is metal pipe coating and metal works which is a **Low** exposure activity
Human element	Management programs and access control are in place
Arson exposure	The outstanding security and access and safety procedure so it is considered as **Very Low**. Good management/ employee relationship and no relevant history or special circumstance happened.
4.3 Hazards	
Occupancy Hazard	There are no significant hazards due to business operation type (metal pipes coating and Office Building), human element and control in place.
Storage hazard	Flammable and compressed gases: - Few quantities of gas cylinders used for welding operation at the risk addressed. separate room constructed of RCC structure for paint works.
4.4 Other Perils (Natural Catastrophe Hazards)	
Earthquake	According to Munich Re's "Maps of World Natural Hazards" the site located in a **zone 1** earthquake classification area.
Tsunami /Flood	There are no rivers or large bodies of water in the area. the region is desert with an infrequent rainfall. Heavy rain is experienced and can be accompanied by flash flooding. Tsunami on Qatar Coast as detailed in Munich Re Maps of World Natural Hazards is **very low.**
Windstorm	Per Munich Re's "Maps of World Natural Hazards" the site is classified as outside the affected area for tropical and extra-tropical storms and is in **Zone 1** for both Tornado and Hailstorm exposure.
Lighting	Per Munich Re's "Maps of World Natural Hazards" the site is classified within a **low** frequency area for lighting with expected 0.2-1 strikes a year.

5- Risk Analysis

5.1 Risk location and Separation

We defined the single risk as maximum loss, which could be sustained on single risk which can be envisaged in the worst circumstances allowing for complete loss of all property due to full failure of fire division protection, firefighting equipment or any other protective measures. Loss of profit and business interruption the loss of potential must be calculated at 80% of the Sum Insured. For this risk it is a Single Risk

Risk location	The premise is located at New Industrial area – Qatar (Zone: 81, Street: 7 & Building: 150), where the risk is approximately 22 kilometers away from Hamad International Airport and there is no surrounding properties or neighbor. **GPS: N: 25°9' 30.621' & E: 51° 24' 17.697"**

5.2 Risk Quality

5.2.1 Risk Grading: Summery features of the risk are shown in the table below

Property layout	Good	Management Program	Good
Fire water supply	Adequate	Maintenance & Inspection	Good
Fixed protection	Adequate	Housekeeping	Good
Manual firefighting	Good	Emergency	Good
Outside exposure	Low	Security	Good

Overall Property Grading: Good

5.2.2 Common Insured perils risk assessments are shown in the table below

Risk	Probability	Severity	Comments
Fire	Likely	Moderate	Occupancy type may form significant loss

Water Damage	Remote	Minor	Leaking system would if unchecked could case soft fabric damages to the property and some furniture and electric lifts, but continuous maintenance plan is in place reduces the risk.
Burglary/Theft	Unlikely	Slight	The site security manned 24/7
Vehicle Impact	Unlikely	Minor	The premises protected from the street vehicles, but the possibility cannot be eliminated.
Aircraft Damage	Unlikely	Minor	The building is 12 km away from Hamad International Airport
Explosion	Extremely improbable	Catastrophic	There is no equipment or storage that can case explosion
Strikes, Riots, & Civil Commotion	Unlikely	Minor	There is no history of such risk in Qatar
Natural Perils	Likely	Moderate	Some heavy rainfall damage occurred
Risk assessment conclusion for this risk is within acceptance range			

Risk level	**Action Priority**
High Risk	Immediate action to be completed (Required Action)
Medium Risk	Action to be completed within 6-8 months (Required Action)
Low Risk	No action required/Action to be completed within 12 months

Detailed grading assessments are included within this report to explain this rating. Where appropriate.

Observation of risk features:

- There is a sprinkler system at the risk address.
- Raw material and finished products are metal sheets and metal parts and joints.

6- Sum Insured, Loss History & Loss Estimates

Sum Insured details are shown in the table below.

The Sum Insured

6.1 Sum Insured Details		
	Description	Value in (QAR)
1	Furniture & Fixtures	933,246.99
2	Office Equipment	1,584,892.50
3	Buildings	12,471,158.27
4	Electrical Installation	614,550.00
5	Fire Fighting Equipment	885,219.00
6	Ducting Machineries	7,056,224.45
7	Inventory	6,746,776.33
8	Vehicles parked outside the building	2,205,488.80
	Total Sum Insured	**32,497,556.34**

6.2 Loss History		
No reported loss or damages reported since the past 3 years		
Date	Circumstances	Loss Amount in (QAR)
N/A	N/A	N/A

6.3 Estimated Loss EML & PML

The loss estimates presented here are based on industry experiences and information provided by the client. The calculation of estimate is based on the review of the building structure, operations, fire-fighting facilities system at the time of survey.

Definition of PML

PML - Probable Maximum Loss: the highest normal loss to fire that could be anticipated with existing protection in service and functioning properly. PML is calculated based on public and private protection where all firefighting facilities are functioning.

PML % is 35

EML Estimate: EML is the largest loss that could result from single incident in the building. It assumed that the initial incident is so large that the active protection system is rendered inoperative (Not functioning) and only passive protection facilities such as spaces and fireproofing are effective. The size of loss can approach the value of the building of origin or entire facility.

EML it might approach 100 %

7- Photos

Office building

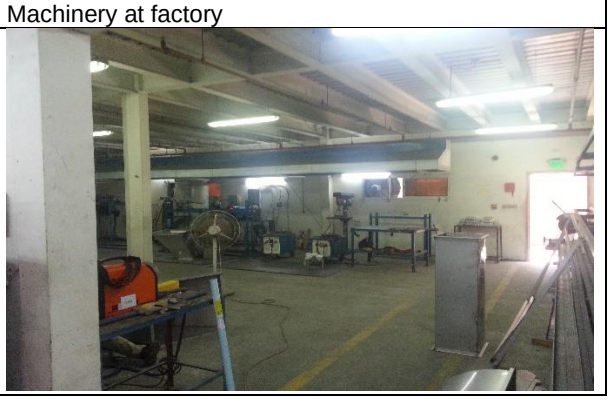
Entrance to factory

Some materials kept at the open yard

Factory building

Shaded area

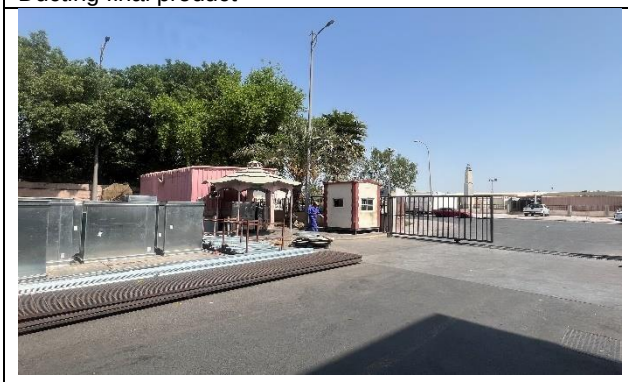
Machinery at factory

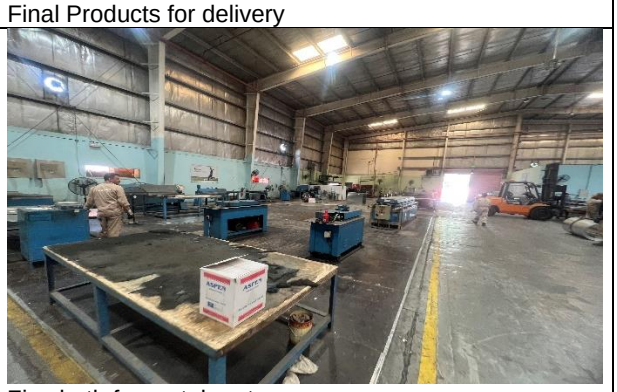


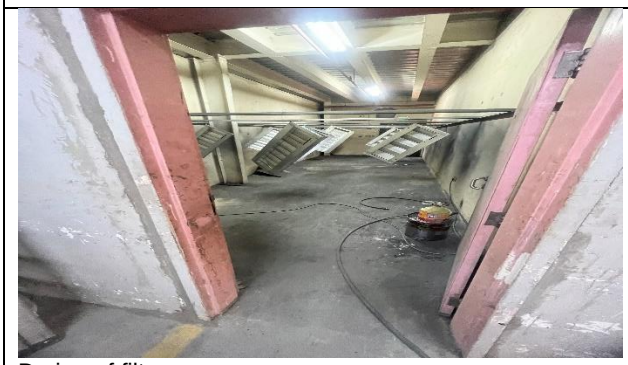
Access and spaces	Assemby of ducting

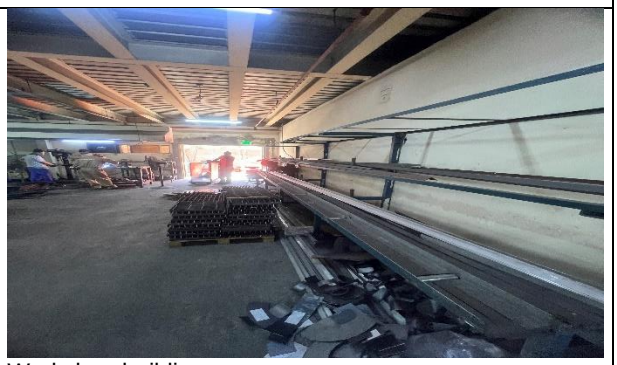

Ducting final product


Final Products for delivery



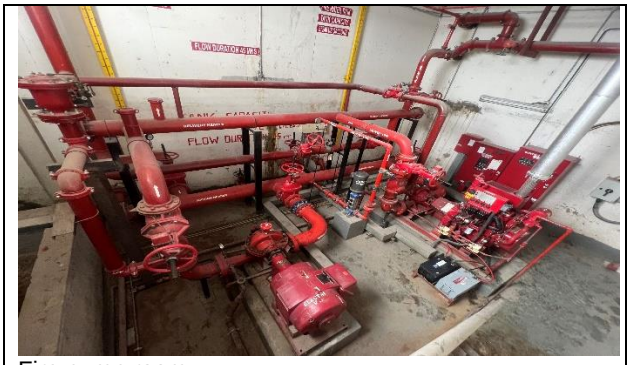

Zinc bath for metal parts


Drying of filters


Workshop building


Metal sheet rolls


Wood used for wooden pallets



Fire pump room

Fire tank

Fire alarm panel

Hose reel cabinet

Security room

Frie pump room

8- Disclaimer

It is acknowledged that this report is not intended to identify all hazards which may exist nor is it intended to be an exhaustive review of all possibilities or eventualities. The recommendations for risk improvement contained in the report are purely advisory and the decision and responsibility for implementation rests with the client's management. QGIRCO makes no representation or warranty in relation to the accuracy or completeness of information contained in the report or fitness of any information furnished hereunder. Liability for indirect or consequential loss arising out of or in connection with the report is expressly excluded.