

2024

Inspection of Automatic Sprinkler System

ASIB



Inspection of Automatic Sprinkler System

BW1 Seraphim Solar East London
Industrial Development Zone

Complete

Client/Site Name

BW1 Seraphim Solar East London Industrial Development Zone

Billing Address

East London Industrial Development Zone SOC Ltd P O Box 5458
GREENFIELDS
5208

Attention:

Mteteleli Zantsi
Camagwini Ngxokolo-Nomatye

Document No

UNC.8476

Prepared by

Keith van Onselen

Conducted on

09.05.2024 08:00 SAST

Site Location

East London
EC
5201
South Africa

Disclaimer

We have pleasure in attaching our inspector's report.

Whilst every care is taken in the preparation of the report which describes the conditions as found, such report is not a guarantee carrying responsibility for results and neither this Company nor any of its employees or agents shall be liable for any loss or damage of whatsoever nature and howsoever caused, (whether by actual or alleged negligence or otherwise), in any way arising out of the acts or omissions of the Company and/or its employees or agents aforesaid.

The report is based upon the visual inspection of the external condition of the equipment where accessible without having to provide scaffolding, ladders, staging, lighting and not requiring the removal or displacement of any temporary or permanent structure, fitting or fixture.

If there are any points arising on which you require clarification, kindly communicate with the undersigned. Assuring you of our best attention at all times.

Confidentiality

In order to maintain the integrity and credibility of the inspection processes and to protect the parties involved, it is understood that the inspectors will not divulge to unauthorized persons any information obtained during this inspection unless legally obligated to do so.

Yours faithfully,

THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED

A handwritten signature in black ink, appearing to read 'Nico van Loggerenberg', written in a cursive style.

Nico van Loggerenberg
Managing Director

1. Report Summary

THE AUTOMATIC SPRINKLER INSPECTION BUREAU (PTY) LIMITED



REGISTRATION NUMBER: 1970/010833/07

1407 IMBALI
CNR LOUIS BOTHA AND
TUDHOPE AVENUES
BEREA
JOHANNESBURG
2198

TELEPHONE: +27 11 642 1703
FACSIMILE: +27 11 642 1019
E-MAIL: asib@asib.co.za
WEB SITE: www.asib.co.za

P O BOX 3139
HOUGHTON
2041

INDEPENDENT
THIRD PARTY
INSPECTION AND
ADVISORY
SERVICE SINCE
1970

© 1970 - 2023 AUTOMATIC SPRINKLER INSPECTION BUREAU ALL RIGHTS RESERVED

Code

PC - Partial Protection, Clearance
Certificate not Issued

Partial clearance certificate withheld due to the following:

Sprinkler System - Excessive Fault



This in relation to the issues highlighted with the ESRF system installed

Standard

10th Edition

11th Edition

ASIB Contract No

UNC.8476

Client Order No

PO-004203

Was the sprinkler system design in order

Yes

Was the water supplies in order

No

Refer to report UNC.9478 conducted on 08/05/2024

Was the pump room in order

Yes

Refer to report UNC.9478 conducted on 08/05/2024

Was the installation control valves in order

No

Refer to Installation Control Valves - Section 7.

Was the storage in order

Yes

2. Hand Fire Appliances

Hand Fire Appliances - One unit per 100 m² of floor area.

Hand fire appliances date of the last service:

08/2022

Are the hand fire appliances due for their service.

Yes



Photo 1

Clear access to the hand fire appliances must be maintained at all times.

3. Occupancy & Storage Guidance

Percentage Hazard.

% Ordinary Hazard

10
From 0 to 100

% High Hazard

90
From 0 to 100

Stack height signs not less than 500 mm by 500 mm in size must be prominently displayed at the maximum level of the allowable storage height in all storage and process risk areas.

Occupancy / Process Risk

Occupancy/Risk

Occupancy/Risk 1

► **Ordinary Hazard / High Hazard**

High Hazard

► **Select Occupancy / Process Risk**

Process Risk

Storage Risk

Specify Process

Solar panel manufacturer

Category

CAT II

Design Density (mm/min)

7,5 mm/min

Where goods of differing categories are stored within the same area, it is the stack height limitations of the goods with the highest category that will apply.

► **Product Stored**

Solar panels in cardboard boxes

Category

CAT III

Storage

Method

Method 1

Storage Method

Free Standing / Block Storage

Design Density (mm)	ESFR
ESFR K-Factor	
20	
Roof Height (m)	11
Storage Height (m)	
7,6	

4. Sprinkler System Design

Building

Building 1

Building Name

BW1 Seraphim Solar East London Industrial Development Zone

Date of First Inspection

Unknown

Original Installer

Unknown

Extension By

Unknown

Building Area m²

4100

Height of Building in meters

11

Sprinkler Detail

Area

Area 1

► Area & Type of Sprinklers

Roof Sprinklers

Ceiling Sprinklers

Void Sprinklers

Canopy Sprinklers

Number of Sprinklers

Approximately 600

Calculations

Hydraulic Calculations

Area of Operation

Area of Operation 1	
► Area of Operation	Pump Duty
Flows & Pressures 7500 l/min @ 950 kPa	
Area of Operation 2	
► Area of Operation	Roof Most Remote Area of Operation
Flows & Pressures 5590 l/min @ 680 kPa	
Area of Operation 3	
► Area of Operation	Roof Most Favourable Area of Operation
Flows & Pressures 5580 l/min @ 765 kPa	
Additional Sprinkler System Designs Required	No

5. Water Supplies

► Water Stored on Site.

Yes

Refer to report UNC.9478 conducted on 08/05/2024

Add Water Storage Tanks





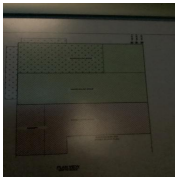

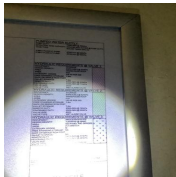
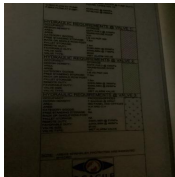
6. Pump Room

Pump Installed on Site

Yes

Refer to report UNC.9478 conducted on 08/05/2024

Add Pump House

7. Installation Control Valve(s)	
7.1 Sprinkler control valves accessible	Yes
Valve Cabinet	
Valve Cabinet 1	
Location:	
West side of building	
<div>    </div> <div> Photo 2 Photo 3 Photo 4 </div>	
Number of Alarm Valves Installed	1 x 100 mm, 2 x 200 mm
7.2 Sprinkler Valve Location Plate Installed	Yes
7.3 Fire Brigade Booster Pressure Limitation Plate	Yes
7.4 Block Plan Installed	Yes
7.4.1 Is the block plan labelled in accordance with the areas fed by the sprinkler control valve assemblies	Yes
7.4.2 Are the correct installation details recorded on the block plan	Yes
<div>      </div> <div> Photo 5 Photo 6 Photo 7 Photo 8 Photo 9 </div>	
7.5 Sprinkler Valve Instruction Chart	Yes
7.6 Is a sprinkler spares box present	Yes
7.6.1 Was the spares box contents accessible	Yes
7.6.2 Are the spares quantities correct	Yes
7.7 By Pass Arrangement Installed	No

It is recommended a valve bypass assembly be provided at each installation control valve. This allows the alarm valve to be overhauled without isolating the system and prevents wastage of water.

7.8 Fire Brigade Booster Connections Installed Correctly and Accessible

No



Photo 10

Installations must be fitted with fire brigade booster connections which will enable the fire brigade to pump water into the installation using their own equipment.

It appears that the booster connection piping to the main distribution riser is too long, which may restrict the opening of the booster plunger into the main distribution riser, this will prevent effective boosting of the sprinkler system and must be revised.



7.9 Are the Installation Control Valves Housed within an Approved Valve Cabinet

Yes

Sprinkler protection is required within the valve cabinet



7.10 Flow Switch Installed Correctly

Yes

Pressure switches installed

7.11 Manifold Correctly Supported

Yes

7.12 Riser Mains Correctly Supported

Yes

7.13 Riser Mains Externally Located

No

7.14 Flow Measuring Device Installed.

Yes



Photo 11



Photo 12

Flow Test Results

Pass

Recorded Flow and Pressure

6000 l/min @ 1000 kPa

7.15 Correct Pressure Gauges Installed

Yes

7.16 Correct Gauge Cocks Installed

Yes

7.17 Flanges Short Bolted

Yes



Photo 13

The bolts for these flanges must be removed and replaced with the correctly sized bolts so as to ensure that at least two full thread pitches past the chamfer protrude beyond the nut.

7.18 Loose / Missing Bolts, Nuts & Washers

No

7.19 False Alarm Prevention Pump Installed

N/A

7.20 Drain & Test Pipes Installed Correctly

No

The water motor alarm drain pipes discharge into a common manifold. This must be revised so that the drain pipes are taken separately to waste.



7.21 Weekly tests of the installation control valves alarm bell must be carried out with the alarms sounding for at least thirty seconds.

All water pressure gauge readings must be checked and recorded.

The testing and records should be carried out by a member of staff delegated to do this.

7.22 Trunk Main Pressure (kPa)

1100

7.23 Installation Pressure (kPa)

1400

7.24 ASIB Overhaul Date Tag No

Yes

Last Overhaul Date

11/2021

Next Overhaul Date

11/2024

7.25 Alarm Motor & Gong Test

Passed

7.26 Are All Valves in the Correct Positions

Yes

7.27 Are All Valves Secured

Yes

Non Compliance - Items

Item

Item 1

Non Compliance Items

► Description

Other

Item No. 6.6.8. Maximum 1200 kPa churn pressure exceeded.



Photo 14

Recommendation Items

8. Storage

Are the required clearances being maintained.

Yes

Are the storage heights exceeded.

No

At the time of inspection the storage heights were being adhered to and found to be in order.

9. Sprinkler System

Sprinkler System

Area

Area 1

Specified Area.

Warehouse

System Issue

Issue

Issue 1

Finding

Other

Specify Other.



ESFR Natural Ventilation

ventilation has been installed in conjunction with ESFR sprinkler protection. Mechanical ventilation is accepted.

It is imperative that the mechanical vents do not open automatically in a fire situation as the ESFR sprinkler system will be adversely effected which could result in the ESFR system failure.

It is important that the mechanical vents be manually operated and that the Fire Chief in charge of operations during a fire be able to make the decision whether it should be opened or remain closed.

Location of Finding.

Roof monitor

The effect of the ventilators installed in the roof may be considered as open ventilation. Their effect on the operation of the installed ESFR installation would be unknown. In order to have the finding satisfied, the OEM would need to be contacted and asked to define the ventilators in respect of ESFR operation and confirm them as an acceptable roof ventilation service. Any Clearance ASIB awards the site would exclude the potential negative impact the ventilators may have on the protection installed.

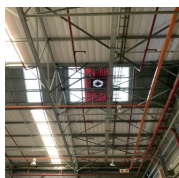


Photo 15

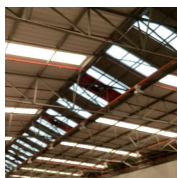


Photo 16

Issue 2

Finding

Other

Specify Other.



Maximum roof angle exceeded.

The maximum roof angle of 9,5 degrees for effective ESFR protection appears to have been exceeded, this must be investigated and addressed by your installer.

Location of Finding.

Roof monitors

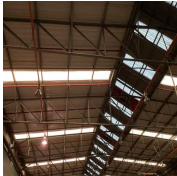


Photo 17

Issue 3

Finding

Other

Specify Other.



Combustible roof sheeting/insulation is not acceptable above ESFR protection

ESFR sprinklers can only be located beneath non-combustible surfaces. Combustible translucent sheeting, may in the event of a fire negatively impact the operation of the ESFR installation. Heads or sheets would require to be relocated appropriately in order to satisfy this item.

Location of Finding.

Roof

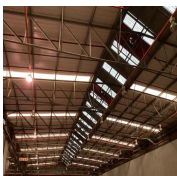


Photo 18

Issue 4

Finding

Other

Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

These must be sprinkler protected on their underside if, in the case of square or rectangular trunking, ducts or cable trays they exceed:



800 mm in width and are closer than 150 mm from a wall, or 1,000 mm on width and are further than 150 mm from a wall.

Location of Finding.

Various



Photo 19



Photo 20

Area 2

Specified Area.

Other

Specify Area

Production area

System Issue

Issue

Issue 1

Finding

Sprinkler Spacing

Sprinklers exceed 600 mm from walls of a cold room or freezer (11th Edition).



Location of Finding.

Main hall back wall

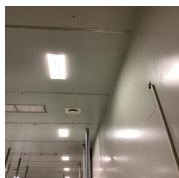


Photo 21

Issue 2

Finding

Other

Sprinkler protection required beneath bulkheads which exceed 800mm in depth.



Location of Finding.

Electrical DB



Photo 22

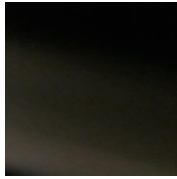


Photo 23

Issue 3

Finding

Other

Surfaces exceeding 1,0 metre in width.



Surfaces which exceed 1,0 metre in width will obstruct the water discharged from the sprinklers above which could result in an ignition beneath these surfaces not being controlled or extinguished.

Location of Finding.

Conveyors in laminating room



Photo 24



Photo 25

Issue 4

Finding

Pipe Support

Distribution rise/drop pipes shall be secured directly to the building structure or by hangers securing horizontal distribution pipes within 300 mm of the riser.



Location of Finding.

Dropper to offices



Photo 26

General Notes

Yes

T must be determined if sprinkler protection can be installed in the laminating machines



Photo 27



Photo 28

10. Proof of Inspection

Proof of inspection.

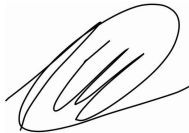
For and on behalf of client:



Camagwini Ngxokolo-Nomatye
10.05.2024 15:05 SAST

Proof of inspection.

ASIB Inspector:



Keith van Onselen
10.05.2024 15:05 SAST

WARNING

© The Automatic Sprinkler Inspection Bureau (Pty) Ltd 1970-2022 All rights reserved.

Copyright subsists in this work. All information contained in this report is the property of The Automatic Sprinkler Inspection Bureau (Pty) Ltd. No part of this report may be reproduced, published, performed, broadcast, transmitted or adapted in any form or by any electronic, mechanical or other means without the written permission of the copyright holder. Any unauthorised reproduction, publishing, performance, broadcasting, transmission or adaption of this work will constitute copyright infringement and render the doer liable under both civil and criminal law.

The primary function of the ASIB is to protect the interests of the end user and as a result, we constantly update the list of registered suppliers and installing companies.

These companies have proven that they are capable of installing, extending and servicing fire sprinkler systems to the correct standards.

We have had occasion to remove companies for valid reasons which are not confidential and include, but are not limited to, poor workmanship, design, fabrication, incorrect advice, lack of skilled staff, fraudulent quotations and financial instability.

It is important to note that if a company is not listed with the ASIB and carries out work on a sprinkler system we will not be in a position to issue a Clearance Certificate for the premises which, in turn, may place you at risk.

In selecting your service provider, it is important to appreciate that the ASIB is not seeking to infer that a non-listed service provider is necessarily not capable of offering the required service to an appropriate standard. What the ASIB is saying, is that the ASIB is not in a position to give you the assurance that a non-listed provider concerned has demonstrated that it complies with the ASIB standards. In addition, because the ASIB is unable to fully inspect an installation (which by its nature has many inaccessible components), you will appreciate that the ASIB is also unfortunately not in a position to issue a Clearance Certificate in relation to an installation done by a non-listed company.

We advise you to check the listing status of the service provider you choose especially if there is any uncertainty.

You can access our website at <http://www.asib.co.za> which is current or phone our offices at 011 642 1703 for verification.

Email:

Email: 1

Recipient

camagwini@elidz.co.za

Email: 2

Recipient

Mteteleli@elidz.co.za

Media summary



Photo 1



Photo 2



Photo 3



Photo 4

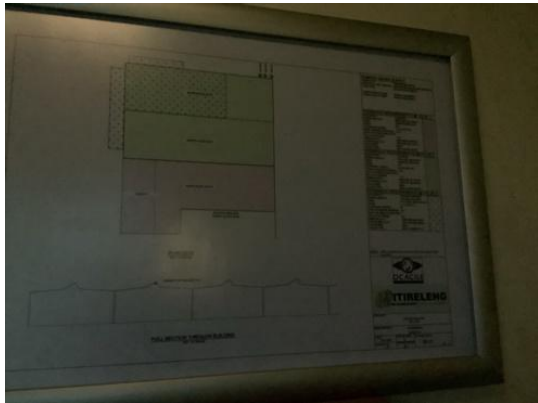


Photo 5

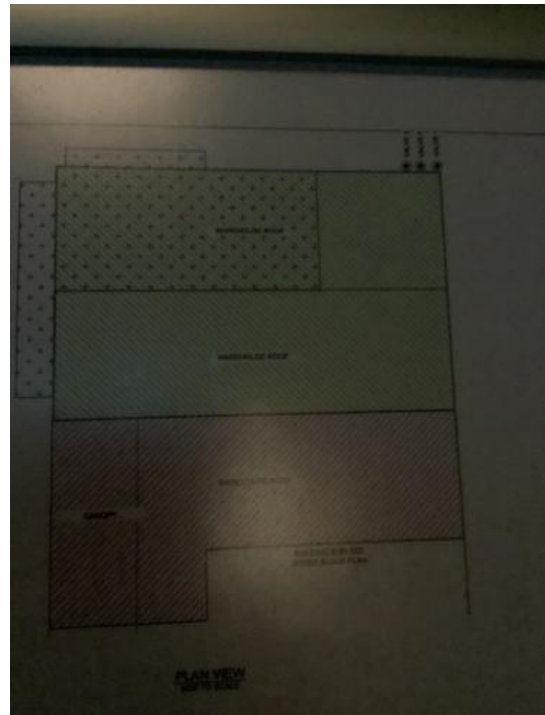


Photo 6



Photo 7

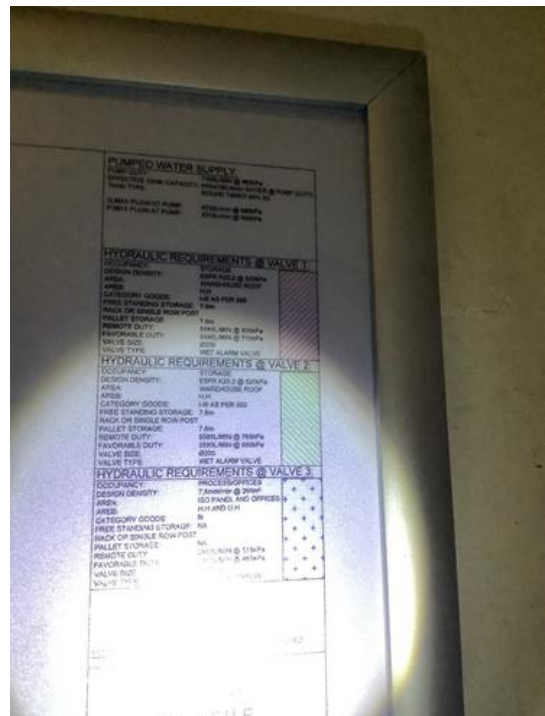


Photo 8

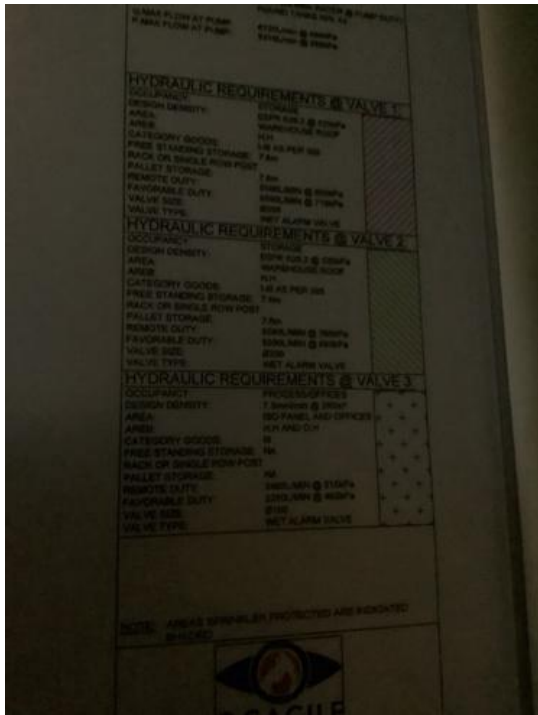


Photo 9



Photo 10

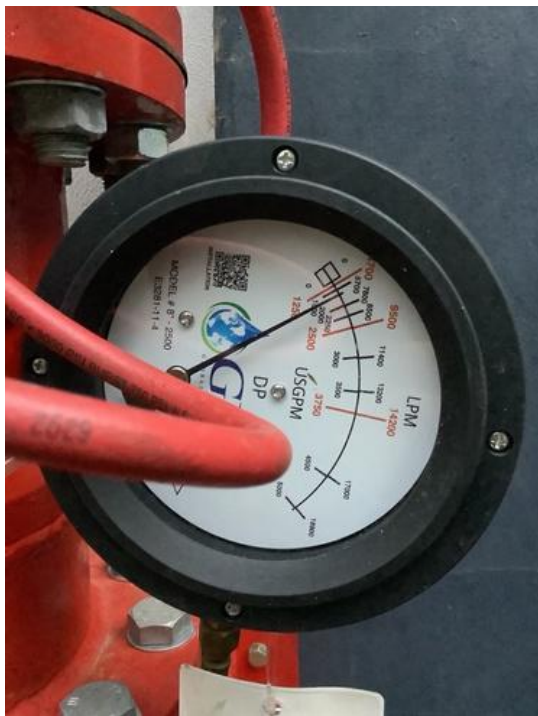


Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16



Photo 17

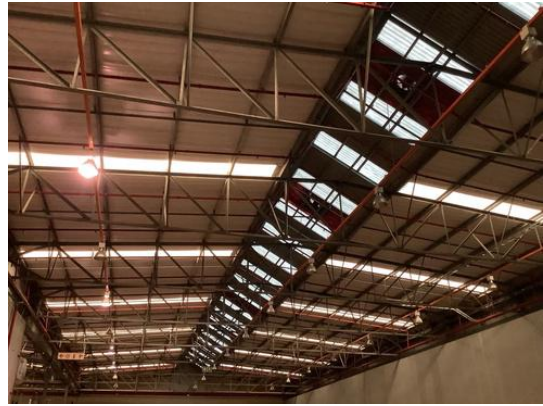


Photo 18



Photo 19



Photo 20



Photo 21



Photo 22

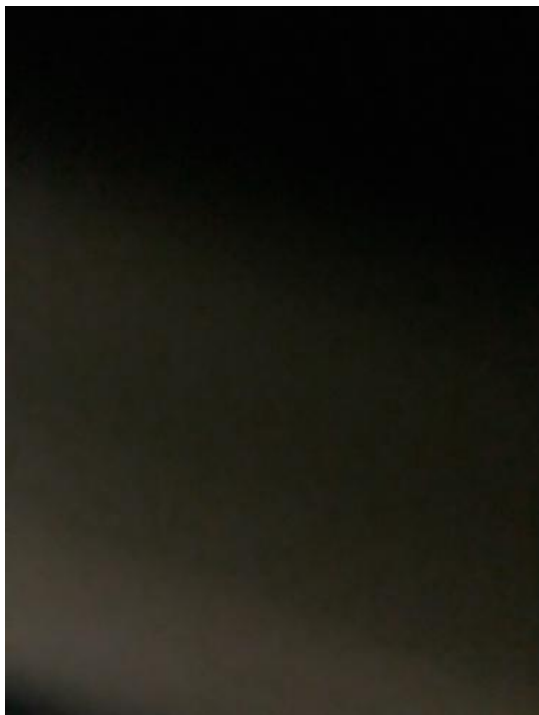


Photo 23



Photo 24



Photo 25



Photo 26



Photo 27



Photo 28