

AYALA ALABANG R1P

1.1 Fire protection and safety audit

1.1.1 Fire detection and alarm system

Summary of data and information from FDAS audit is presented in Table 1.1 with visual images on as-found devices and panels (Figure 1.1)

1.1.1.2 Recommendations

The findings/facts and results of the audit are presented in Table 1.1. Visual images of assets are shown in Figure 1.1

Table 1.1 FDAS Data highlights

No.	Assets	STATUS	REMARKS
A.	VISUAL CHECK OF FIRE ALARM CONTROL PANEL		
1	Panel Status, installed and location area	1	INSTALLED, LOCATED AT ENTRANCE
2	Power indicator lamp operational	1	
3	Devices properly indicated and marked	1	
4	Panel clear from trouble indicators	1	
5	Lamp test indicator operational	1	
6	Zones properly indicated and marked	1	
7	Check if it's connected to sprinkler system	0	NO SPRINKLER INSTALLED AT SITE
B.	CHECKING OF INSTALLED DEVICES		
1	Check floor plan lay-out and location of the device if accessible/easy to access	0	No floor Plan presented during inspection
2	Heat detectors and / or smoke detectors locations acceptable	1	
3	Heat detectors and / or smoke detectors indicator lamp functioning	1	
4	Pull station locations acceptable	1	
5	Bells and buzzers operated correctly		FOR VERIFICATION
6	Bells and buzzers audibility		FOR VERIFICATION
7	Strobe lights locations are acceptable	0	NO STROBE LIGHT DEVICE
8	Strobe light operated correctly	0	NO DEVICE
9	Are Fire alarm zones (areas) clearly marked	1	
10	Is there a maintenance and service contract for the fire alarm system	1	INFORMATION SUPPLIED BY OPERATOR AT SITE
11	Does the Fire Alarm System smoke detector, heat detector, manual call point , horn and strobe light working and have a current inspection tag	0	NO INSPECTION TAG
12	Is the fire alarm system in full working order		FOR VERIFICATION

On the inspection date, it was established that there is Fire Alarm Control , **PYGARD brand** and the devices are SMOKE DETECTOR “**PYGARD**” brand.

It is a conventional fire alarm system which is an early warning system design that detects a fire, that tells the zone/ area of the fire but not the exact location of the fire. The existing design plan did not consider where a specific fire alarm can signal exactly where the fire is occurring.

The existing Fire Detection and Alarm system consists of:

20 pcs of smoke detector,
4 Zones indicator (Annunciator)
5 sets manual call point and buzzer
4 pcs bell

On the testing date, the activity was witnessed by the operator on duty for this pump station.

Figure 1.2 : Fire detection and alarm system



(a) FDAS panel



(b) Bell



(c) Manual pull station



(d) Annunciator



(e) Smoke Detector



(f) Sounder

Highlights of the testing are:

- 16 out of 20 smoke detector devices were tested, activated after spraying of smoke tester. Location of functioning SD are
 - the lobby
 - hallway
 - conference room
 - file room
 - back room
 - pantry
 - customer care
 - utility room
 - Motor control center room

- Water network room
- Water network conference room
- Remaining 4 devices not tested due to unavailability of keys in the IT room, cashier room, and need scaffolding in the pump room
- All manual call point in good condition
- Three (3) bells were activated every time the smoke detectors and manual call point were activated
- One (1) bell device did not function (not activated-no sound) during testing located at the MCC room.
- There are no smoke detectors at the chlorine tank house and genset room.

Recommendation:

Troubleshoot non-functioning bell at the MCC room. Check wiring specially on the termination.

Figure 1.2 : Testing of smoke detectors



SD#1



SD#2



SD#3



SD#4



Spray test of SD's



FA Control Panel



Annunciator 1 Indication



Annunciator 2 Indication

1.2 Lightning protection system

There is a lightning protection system installed for this in pump station. The strike counter has registered previous strikes. Testing the connection of the continuity of bare copper wire connecting the lightning arrester indicated acceptable values but already on the marginal side.



a. Lightning arrester rod



b. Strike Counter



c. Bare copper wire

1.3.3 Ground-Fault circuit interrupter (GFCI) or electric leakage circuit breaker (ELCB) or Residual circuit devices (RCD)

No GFCI or ELCB or RCD were installed in this booster station.

1.3.4 Electrical safety and protective devices APSI to write here the findings.

ELECTRICAL SAFETY

The pump station in general is well maintained, and the area station where the operator stays is free from all obstructions. There were some marginal findings of safety issues but otherwise the station is well managed. The station has observed good housekeeping and cleanliness of the pump station.

Table: Fire Protection Data Highlights

ITEM	VISUAL CHECK	STATUS	REMARKS		
1	EVACUATION PLAN	1	Posted		
2	FIRE EXTINGUISHERS	1	Green FEX(HCFC) and Red FEX		
3	FIRE EXITS	1	All doors have exit signages		
4	FIRE HOSE CABINET	0	Not found		
5	FIRE SPRINKLER SYSTEM	0	No sprinkler system		
6	EMERGENCY EXIT SIGNAGES	1	Found in every door		
7	EMERGENCY LIGHTS	1	Emergency lights are functioning		
8	PPE CABINET	0	Not found		

Figure: Fire protection data highlights



(a) evacuation plan



(b) fire extinguisher – green



(c) fire extinguisher-red



(d) exit signage



(e) emergency light

Table : Electrical Safety Findings

ITEM	DESCRIPTION	STATUS	Findings During Inspection	Remarks
1	Emergency lights	0	Most of the emergency lights has no inspection tag	Should be checked for functionality Replace if no longer charging
2	Ladder going to reservoir	0	Unprotected ladder No cage	Unsafe for personnel going up the reservoir Cage should be provided for protection from fall
3	Manhole #1	0	Open manhole w/o barricade and without signage	-Unsafe if unnoticed Should have barricade and signage for warning
4	Manhole #2	0	Open manhole w/ barricade but with signage	Unsafe if unnoticed Should have signage to warn people at a distance
5	Fire Extinguisher	0	Last inspection tag 10/4/2017	For FEX, this should be inspected once a month Make sure this is still effective
6	Fire Extinguisher	0	No FEX on designated location	For accessibility, FEX should be located in its designated location



(a) Emergency light w/o inspection tag (b) Ladder w/o cage protection



(c) FE-05 tag 10/4/2017 (d) No FEX on designated location



(e) Open manhole w/o barricade and w/o signage (f) Open manhole w/ barricade but w/o signage

1.4 Conceptual Design and Outcomes

1.4.1 Basis of Design

ITEM	DRAWINGS	STATUS	REMARKS
1	Existing As-built drawings for FDAS	1	As built not found. Drawings for FDAS will be provided
2	Existing As-built drawings for Emergency light location	1	As built not found. Drawings for FDAS will be provided
3	Existing As-built for Fire Extinguisher location	1	As built not found. Drawings for FDAS will be provided