

**Application of HSE Management principles in Airport Construction Projects.**Jos Thomas Kadambatt¹, Dr.Nihal Siddiqui²*Health Safety & Environment Department, University of Petroleum and Energy Studies Dehradun*

Abstract —the purpose of this project is to provide guidance to the Airports staff and Direct engaged Suppliers of the specific and structured collaborative approach regarding the Health Safety, Security and Environmental (HSSE) management system of Airports. It does so by defining and communicating the HSSE key minimum standards requirements and integrated procedures, activities, practices, audit plans, including applicable laws and regulations, roles and responsibilities of the project parties, that shall apply to all Airports' direct engaged construction 'delivery' and 'handover' activities, to the satisfaction of Airports. The document shall be issued to all Airport direct engaged Suppliers at the start of each contract.

Airports believes that nothing is more important than the Health, Safety, Security, environment and wellbeing of its employees, Suppliers, visitors, passengers, others affected by its activities, and the environment in which it operates. This is fundamental to AP's core values and integral to how Airports does business.

Throughout this document the term 'Supplier' applies to construction Primary Suppliers and other suppliers that provide service to Airports through the execution of a physical activity that involves an HSSE risk. This may include, but not be limited to;

- Infrastructure Suppliers
- mechanical, electrical and plumbing Suppliers
- facility management Suppliers
- building fit-out, refurbishment and maintenance Suppliers
- office removal and relocation Suppliers

The requirements shall also apply to the supply chain engaged by or on behalf of any of the above.

This Construction Phase HSSE Manual is a dynamic document that reinforces safety culture, safety planning and safety execution throughout the project.

Keywords- HSSE Management System, Occupational Health and Safety Safeguards

I. INTRODUCTION

The requirements specified in this document shall apply to all AP staff, AP Site Representatives and Suppliers, who carry out work on any Airports' estates / facilities, for all AP direct engaged projects.

These requirements are designed to be the minimum standards that Airports' require all the Suppliers to implement on the Airports Projects. Any HSSE procedures and forms submitted by the Suppliers must contain all these requirements as a minimum.

This manual shall be read in conjunction with the relevant applicable UAE and local laws and regulations, Airports (A) relevant regulations, procedures and contracts.

II. AIRPORTS MANAGEMENT COMMITMENT

It is the policy of AP to adopt formal systems of management as a means for planning, controlling, monitoring and improving its routine business processes. In this regard, AP maintains an HSSE Management System, which mandates standards and procedures to be followed by all employees, partners and supply chain.

The AP's HSE Management System documents, include routine management, operational, safety, health and environmental processes.

The AP's HSE Management System exists within the context of AP's Group policies, standard, systems and procedures.

The AP's HSE Management System (HSEMS) is subject to a cycle of continual improvement, which is to provide for feedback from clients, interested parties and employees at all levels in the organization.

AP's HSSE Management System is accessible online on AP's intranet local network, Internal reporting software

AP shall provide external access to the above Internal reporting software link for Third Parties (Suppliers) outside of AP on a project-by-project basis

- **Policy Statements**

The AP's Health and Safety Policy and Environment and Sustainability Policy Statements are appended to this manual (Appendices A and B, respectively) and are available to all AP employees via the IAP intranet and will be made available to Suppliers.

• **Airports Safety Leadership**

There can be major cost benefits of adopting a risk management strategy, with clear leadership. Health and safety is an integral part of any risk management strategy. For maximum benefit, consideration must be given at concept / feasibility stage. The benefits of a good health and safety management system may not be self-evident as they are often intangible until something goes wrong. Proactive leadership has proven to significantly reduce these risks. One of the indirect benefits is that people wish to be associated with a successful project. Stakeholder perception (including the public and enforcing authorities) and positive publicity will inspire all those associated with the project and assist in successful delivery.

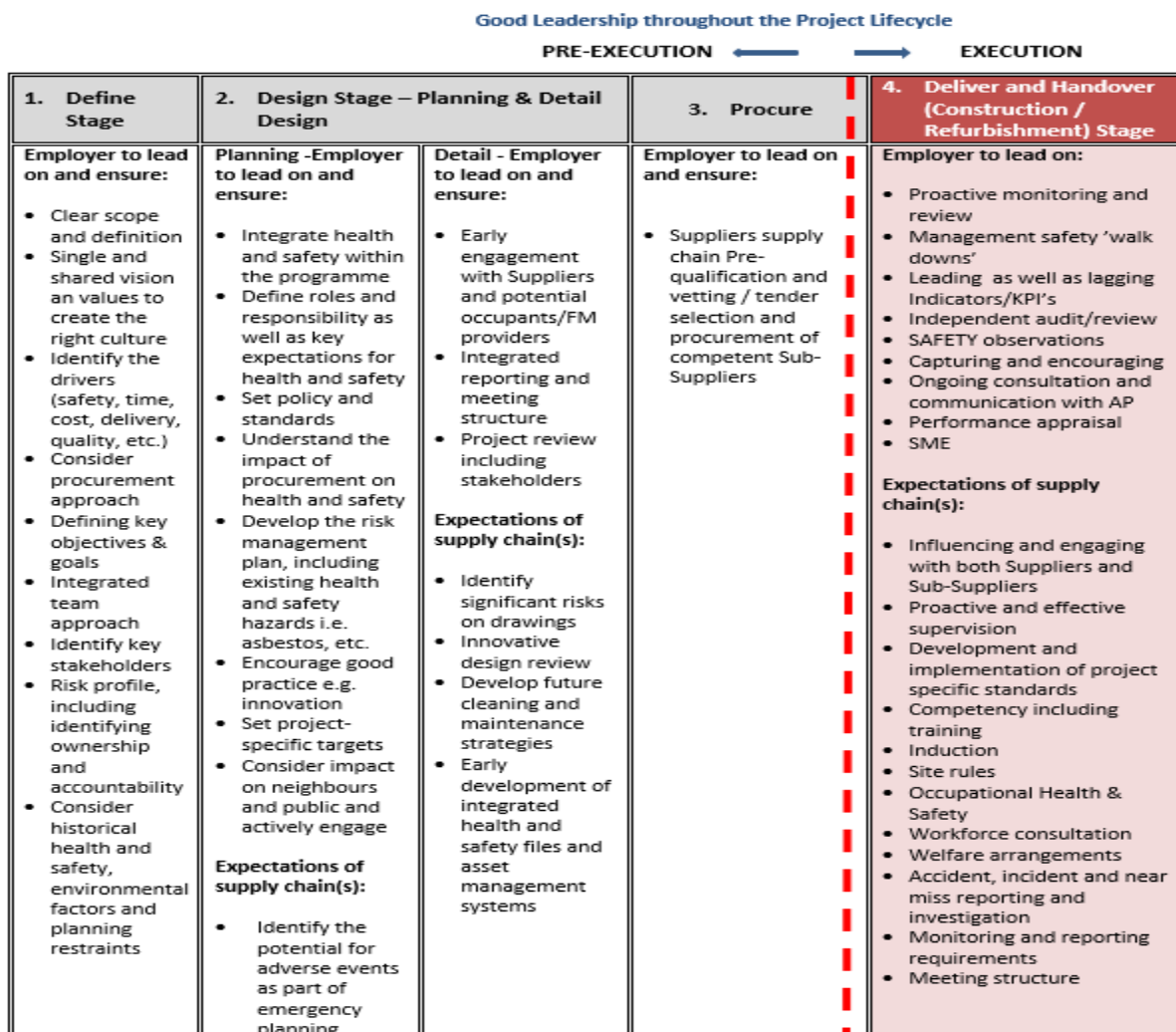
Direct benefits to the project can include:

- Reduced number of lost time accidents
- Improved reporting of minor accidents, incidents and near misses
- Timeliness of delivery and quality of product
- Improved resource management
- Innovative solutions
- Enhanced visibility and transparency of processes
- Improved overall project performance
- Opportunity to capture lessons learned
- Integrated project team involving all parties, leading to improved communication and cooperation

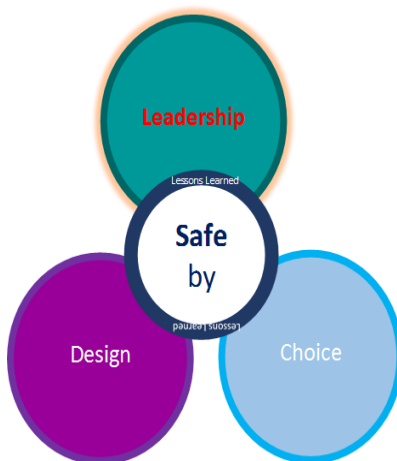
Indirect benefits to the project include:

- Association with success
- Enhanced reputation
- Potential to attract future sponsors and customers
- Reduced insurance costs

• **Phases of the Project**



• **Health and Safety by Leadership (HSbL)**



‘Health and Safety by Leadership’ recognizes the role that AP / Supplier organizations have in influencing change in occupational health and safety. All employees are expected to lead by example, but senior leadership, directors and managers have greater responsibility, simply because of their sphere of influence. ‘Safe by Leadership’ plays an important role in embedding health and safety within an organizations culture and making it a ‘natural’ part of the organization’s thought process.

Our vision is for health and safety to be a natural and integral part of the organization’s culture. AP aspires to this through effective leadership and developing appropriate behaviors. This means proactively working with colleagues, Employers and our supply chain to ensure that it is fully integrated. Control effectiveness is a functionality of control function, control criticality and control ownership. The functions are allocated to provide clarity for end user as well as appreciating where operational efforts are focused upon. Control criticality can be classified as critical or standard. Control ownership is defined by integrating safety accountability to a post holder.

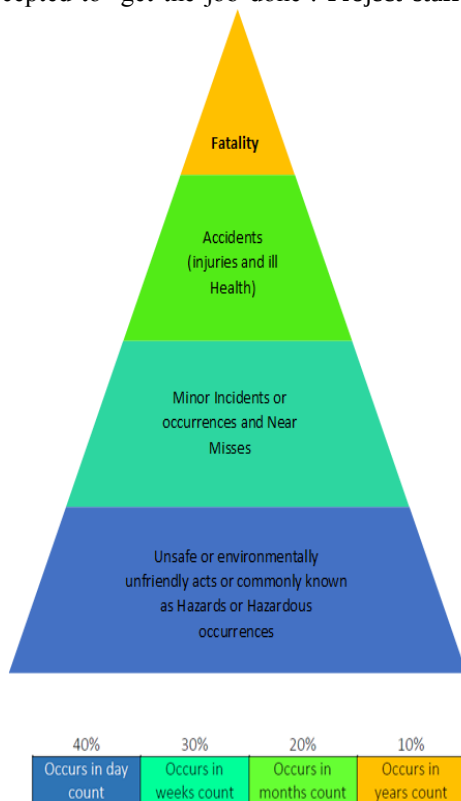
• **Health and Safety by Design (HSbD)**

‘Health and Safety by Design’ is the foundation of AP’s holistic approach to health and safety on projects, during the design phase, either from an architectural or engineering perspective, in line with Airports Health and Safety by Design Guide’ and Airports Environmental Design Guide’. Traditionally within the industry health and safety, risks were seen only as part of the construction phase; however, many of the challenges faced during the construction period can be affected positively through consideration at the design phase. Additionally, during the operational phase of any assets, design considerations can have a major impact on the health and safety of those involved in maintenance.

• **Health and Safety by Choice (HSbC)**

‘Health and Safety by Choice’ is an integral part of how AP Development approaches health and safety on construction projects. Construction work, is intrinsically high risk and it is important for all AP staff and Suppliers to consciously choose compliance with health and safety standards as a natural part of how they influence those on site. Each member of the project team has the full support of the business to stop work on health and safety grounds wherever they feel an unsafe condition persists.

All project staff shall lead by example and never allow themselves to become distracted from the overall safe delivery of a project. There may be time constraints and pressures, but under no circumstances can poor safety compliance be accepted to ‘get the job done’. Project staff are ambassadors to working safely and at every opportunity, they should



endeavor to influence Suppliers’ staff and work practices for a beneficial outcome. Health and safety must be part of how project staff work; it is non-negotiable and forms the foundation of everything done by the business.

Where staff have a visiting role, efforts should be made to influence the project health and safety through engagement with project stakeholders. At every opportunity, the member of staff should promote the importance of good health and safety management. This will include highlighting Safe and Unsafe Acts observed on site, as well as the consequences of failing to follow health and safety standards. Where a visiting member of Project staff has concerns over the health and safety standards on a site that they are visiting, these must be raised with the Supplier verbally at the time and followed up in writing as soon as possible. If it seems that no action is being taken, then escalate to your line manager.

Where the Supplier / AP sets-up temporary offices on site for staff during the construction phase of a project, it is important to ensure that these facilities are fully compliant with health and safety standards. Temporary site offices should be established with the same levels of health and safety compliance as their permanent office counterparts. This will include attention to the following:

- Establishment of a site office emergency plan;
- Risk assessments undertaken for office activities, including manual handling, display screen equipment and use/storage of hazardous substances;
- Induction training for all staff, including visitors;
- Fire arrangements, including means of raising the alarm and drills;

III. HSSE LEGISLATION, LEGAL OBLIGATIONS & DUTIES

• **‘Employer’ Legal Obligations and Duties**

Employers (including, Clients/Employers, Suppliers, Sub-Suppliers, etc.) shall be responsible for compliance with all legislations and regulations requirements on buildings and constructions issued by Federal UAE, local and Municipality. ‘Employers’ have a legal and ethical and moral ‘duty of care’ to ensure work is carried out safely and without risk to employees, members of the public, property, the environment and others are not harmed. Therefore, all Employers must be able to visibly demonstrate a strong commitment to HSSE and to lead by example.

First and foremost, Airports requires all Suppliers within Airports to have a thorough understanding of, and to comply fully with all provisions of the applicable Federal UAE, Local Laws and Regulations, as well as AP rules and regulations, relating to Health, Safety, Security and Environment

• **‘Employee’ Obligations and Responsibilities**

The law states that every person employed, regardless of position or status in a company or organization has a ‘duty of care’ to themselves and those around them and to ensure that those people working under their control are not exposed to unnecessary risk whilst they are at work. Responsibilities also require everyone in the company or organization to:

- *Safeguard their own health, safety and welfare.*
- *Ensure that others are not exposed to unnecessary risk by their acts or omissions.*
- *Lead by example*
- *Stop unsafe working practices or report unsafe working practices to their manager.*

These responsibilities must be appropriately communicated and understood at all levels on site, including;

- *Senior Management*
- *Consultants / Site Engineers*
- *Project Managers*
- *Supervisors / Foremen*
- *Workers*
- *Sub-Suppliers / Supply chain*

IV. Key Project HSSE Roles and Responsibility

The Table 1 below summarizes the basic steps of ‘who-does what-and how’ of the various key parties involved in completing the ‘**Construction**’ phase;

Table 1 Who - Does What - And How

Party	Who	Does what	And how
AP Governance as per AP HSE Management System	AP CEO	Accountable for health, safety, security and environment matters throughout AP	Through Leadership actions including the approval and enforcement of Health & Safety and Environmental & Sustainability Policies; the establishment of and Safety & Security Unit, the allocation of adequate HSSE resources, and, the allocation of responsibility and delegation of responsibility for HSSE.
	AP EVP	Delegated by the CEO, each is accountable for his or her Group’s activities; assigns HSSE responsibilities and delegates authority down to the relevant AP SVP	Through Leadership actions and in accordance with contract, AP HSE Regulations and relevant AP procedures, including being part of AP’s Key Safety Committee.
	AP SVP	The SVP is delegated by the Executive Vice Presidents, each is accountable for his or her sub-Group’s or Units’ activities; assigns HSSE responsibilities and delegate’s authority down to the relevant AP VP. The SVP Development shall be the Employers Representative on contracts executed through AP	In accordance with contract, AP HSE Regulations and relevant AP procedures, including being part of AP’s Key Safety Committee.
	AP VP	Delegated by Senior Vice Presidents Development, each is accountable for his or her Unit’s activities	In accordance with contract, AP HSE Regulations and relevant AP procedures, including being part of AP’s Key Safety Committee.
	AP Director of Development Delivery & ORAT	Delegated by Senior Vice Presidents Development, accountable for his Sections’ activities. Accountable for the overall delivery programme.	In accordance with Master Programme guidelines and in accordance with contract, AP HSE Regulations and relevant AP procedures, including being part of AP’s Key Safety Committee.

Party	Who	Does what	And how
Direct Project Parties	AP Head of Development (HoD)	Delegated by Senior Vice Presidents / Directors Development, each is accountable for his or her Section's activities and teams. Manages a portfolio of projects, and responsible to resolve escalated issues that are generated during the construction phase. Such issues may involve impacts to operations, quality, schedule and cost.	Through leadership actions, including the enforcement of HSSE policies and procedures throughout area of responsibility
	Document Control Manager	Manages all AP project documentation process	Ensures submittals are correctly received / sent between AP & the Supplier (in terms of format)
	AP Site Representative	On behalf of Employer, shall be jointly responsible with the Supplier for the supervision of execution and safety of construction works to ensure complete HSSE compliance. Their responsibilities extend to include adjacent buildings in the workplace and any public facility that may adversely be affected by the execution of those works.	In accordance with contract, HSSE Laws & regulations and relevant AP policies, regulations and procedures
	Supplier	The Suppliers shall be responsible for the execution, compliance as per Contract. The Supplier shall be responsible for the safety of all employees and attendees in or near the worksite. They shall comply with the application of the safety rules and procedures set forth in the Federal and HSSE Regulations	Through the implementation and enforcement of an effective HSSE Management System and in accordance with relevant national and local HSSE Laws and Regulations, and AP policies, regulations and procedures.
	Suppliers' Safety Officer	Supervises the application of all necessary technical, occupational, organizational and operational methods and requirements for the work progress in the construction worksites as per the Contract. To provide their project manager and engineering staff with the technical and consultant support and administer and oversee all issues relating to implementation and compliance with Health, Safety, Security and Environment (HSSE) matters.	Through the implementation and enforcement of an effective HSSE Management System and in accordance with relevant national and local HSSE Laws and Regulations, and AP policies, regulations and procedures
AP Stakeholders	Control of Airside Works (CoAW) - Airfield Operations Department (A-OPS)	The single point of contact to obtain AP approvals / Permits to Work relating to any jobs that are carried out on the Airside. Monitor and manage overall performance and direct any required improvement actions on the Airside, including attending emergencies/accidents relating to any jobs that are carried out on the Airside.	Through review performance against approved plans, objectives and targets It co-ordinates all emergencies/accidents with JCR the all the necessary Emergency Services, and facilitate other AP stakeholders to ensure rapid response whilst maintaining smooth operations at Airports relating to all the projects taking place on Airside

Party	Who	Does what	And how
	Other AP Stakeholders -	Provides timely Subject Matter Expertise to projects during the design, delivery, testing and commissioning lead to takeover and entry into service of the asset.	In accordance with the AP procedures
	AP AFS/ Police/ Ambulance	Co-ordinates with JCR and other concerned parties for all rescue and emergency responses on AP estates The AFS single point of contact to obtain the required approvals / Hot Works Permits to Work relating to any jobs that are carried out on the Airside.	Emergencies attended and investigated as per UAE/local law & Regulations and AP's HSSE Policies and Procedures

V. OVERALL PROCESS

The overall construction activities related to Deliver and Handover Stages, comprises 5 key phases and associated key activities (but not exhaustive) highlighted in table below;

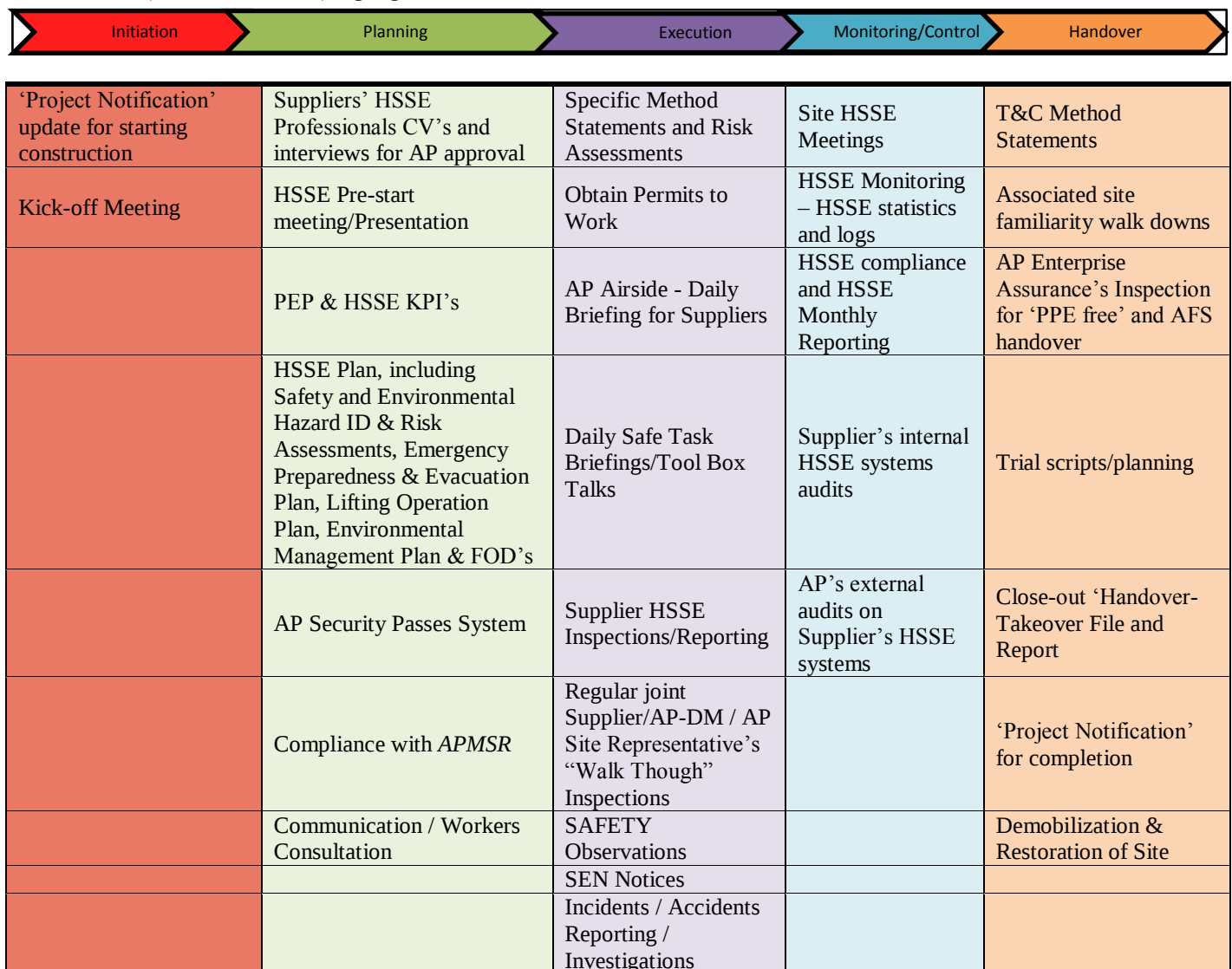


Figure below shows the key AP Corporate HSEMS Audit checklist / components

Figure 1 - Key HSSE Components of the Project



VI. PROJECT METHODOLOGY

1. Focus Groups – 2 sites.
2. Robust project Management tools.
3. Reporting methods.
4. Role of CEO and Executive Directors.
5. Working in Partnership with HSE.

VII. CONCLUSION

The HSSE manual has been presented and prepared following all applicable regulations and standards and it will be strictly followed from commencement till the end of this project. Hence we can say that the upcoming projects in the Airport in UAE will be carried out safely as much as possible. And the guidance for the suppliers will be also illustrated.

VIII. References

National and International Manuals/Standards

- [1] International Health Regulations 2005
- [2] Federal Law No. 20 of 1991 concerning the promulgation of the Civil Aviation Law
- [3] UAE Federal Law 8 of 1980 - On Regulation of Labour Relations
- [4] Ministerial Order 32 of 1982– Regarding the Determination of the Ways and Means to Protect Employees against Occupational Hazards
- [5] UAE Federal Law 24 of 1999 – for the Protection and Development of the Environment
- [6] Federal Law 27 (1981) – Concerning Control of Communicable Diseases
- [7] Provision of Local Order No. 61 of 1991 on Environmental Protection Systems in the UAE
- [8] Provision of Local Order No. (3) of 1991 on Construction Activities Regulations in the UAE
- [9] Provision of Local Order No. (11) of 2003 on Public Health and Community Safety in the UAE
- [10] Administrative Decision No. (125) of 2001 on Endorsement of Construction Regulations, Conditions and Specifications.
- [11] Administrative Order No. (211) of 1991 on issuance of the Executive Regulations of the Local Order no. 61 of 1991 concerning Environmental Protection Systems in the UAE
- [12] Explanatory Note of the Local Order No. (61) of 1991 on Environmental Protection Systems in the UAE
- [13] Civil Defence Regulations' UAE Fire and Life Safety Code of Practice
- [14] Municipality's Code of Construction Safety Practice