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Volume 5, Chapter 2

Facility Surveillance Procedure

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1.0 PURPOSE

The purpose of this procedure is to guide the writer on the applicability, potential, design and implementation of Facility Surveillances to meet the needs of their information gathering requirement.

2.0 SCOPE

Facility Surveillance is the activity of manually or locally recording the condition of assets, subsystems or systems within a facility, where remote or infrequent monitoring is not possible or adequate, so that the proper follow-up actions can be considered and implemented if required.

This Procedure provides advice on the aspects that should be considered when exploring the option of using Facility Surveillance and when designing and launching the work activity.

3.0 DEFINITIONS

Term	Definition
AMS/ CMMS	Asset management System/ Computerized Maintenance Management System
BMS	Building Management System
KPI	Key Performance Indicator
MEP	Mechanical, Electrical and Plumbing
Tablet/PDA	Personal Digital Assistant
WMC	Work Management Center

4.0 REFERENCES

- National Manual of Assets and Facilities Management, Operations Management, Volume 5, Chapter 3
- National Manual of Assets and Facilities Management, Work Control Volume 7, Chapter 2

5.0 RESPONSIBILITIES

Role	Description
Manager	Person with line management responsibility of the Supervisor, and may take on direct engagement as necessary.
Operative	Person responsible for carrying out the surveillance activities on site.
Procedure Writer	Person leading the requirements gathering, design and development of the facility surveillance activity.
Resource Manager	Manager of the team that is asked to help carry out the Facility Surveillance. This Manager is typically the manager of a non-technical team but has been identified as a potential source of help.
Supervisor	Person with responsibilities for the delivery and management of the facility surveillances and information gathered.

6.0 PROCESS

Facilities Surveillance refers to information-gathering activities that are usually mid to long term in duration and are supplementary to the established AMS/CMMS controlled information recording function. Facilities Surveillances can provide an essential and timely service to the Facilities Management team when other inspection and recording methods are not available. Facilities Surveillances often relies on the engagement of non-technical teams.

These surveillances may be applied to building, civil and infrastructure engineering assets, soft services operations, general health and safety, building services, and engineered systems. Facilities Surveillance can be applied to most aspects of facility operations.

Facility Surveillance has the potential to be adapted as a quality assured practice to manage safety and compliance tours conducted by building custodians or managers. It is recommended that the development of Facility Surveillances follow the Plan-Do-Check-Act approach to continuous improvement.

Below is a flowchart outlining the nine steps in this development Procedure and a summary of the inputs at the appropriate steps. This Procedure then provides discussion and advice against each aspect and step.

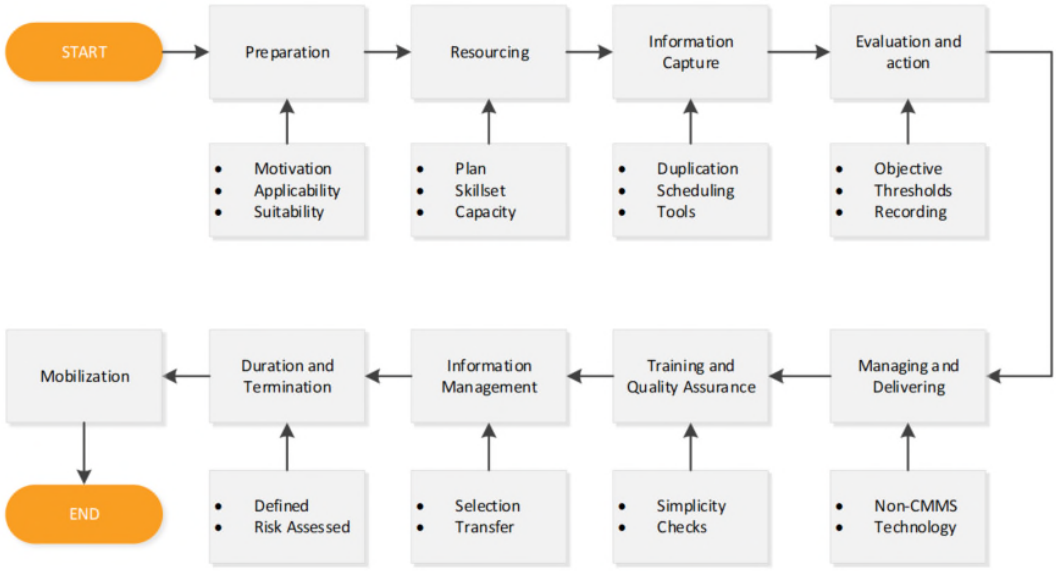

Figure 1: Facilities Surveillances Development Process

6.1 Preparation

- Understand the motivation, applicability, and suitability for the Facility Surveillances.
- For mechanical, electrical and plumbing (MEP) engineered systems, Facility Surveillances are applicable where there is no installed infrastructure to allow conditions and readings to be electronically 'repeated' to a central control room or Building Management System (BMS).
- For civil engineered and construction assets, Facility Surveillances are applicable where there is no contracted periodic maintenance task and where the condition shall be more frequently recorded than the contract specifies.
- Facility Surveillances are sometimes needed when there is evidence indicating a failure in the repeating of data between the sensors attached to the building services engineered systems and the BMS. This is an activity that is separate, and additional to, the 'BMS Planned Maintenance'.
- Resource and financial implications shall to be assessed as part of the preparation activity.
- Facility Surveillances are not commonly driven by a statutory requirement. Exceptions, however, do exist and should be considered. For example, it may be necessary to deliver the legionella risk site measurement activities through a Facility Surveillance procedure, forming part of and feeding into a contractually managed maintenance operation.

6.2 Resourcing

- The resources of manpower, time and funding shall to be considered.
- Identify the most suitable resource for the Facility Surveillance task. With suitable training, Facility Surveillances can be carried out by non-technical operatives such as cleaners, security guards, reception staff, and drivers. For example, security guards may be able to take faucet water temperatures during quiet periods of their (night) shift.
- Check that the frequency of on-site recordings corresponds to the operational or maintenance needs and legislative requirements. For example, instructing someone to monitor the cracks in a concrete roadway bridge on a daily basis is likely to be counterproductive considering the expected rate at which these cracks develop. Similarly, instructing someone to record the temperature of a cold-water storage tank in an intensive care unit within a children's hospital on a weekly basis is unlikely to report a condition of concern at a frequency such that adjustment needed to protect the patients is timely and effective.
- Check that the operatives can deliver. Assessment of the operatives' workload should be carried out to avoid impacting on their key responsibilities, such as facility physical security checks.
- Risk assess the delivery. Because Facility Surveillances usually require non-technical staff to undertake a technical task, the risk of a problem arising is higher than when engaging technical resources.
- Handheld/portable measuring tools should be subject to calibration and will be unavailable as a result unless additional items are available. Fixed gauges may be subject to removal for periodic calibration purposes. The availability of these measuring devices shall to be understood.

6.3 Information 'Capture'

- Understand what is involved in the 'capture' activities of the Facility Surveillances.
- Check that maintenance operatives or others are not already recording the information under existing operations and maintenance plans and procedures.
- Local readings may be taken by permanent fixed devices such as gauges, temporarily fixed devices such as structure/building 'subsidence' measurement devices or a portable tool such as a handheld thermometer. The access point from which these readings are taken shall be assessed as this can impact the overall accuracy of the reading and the time required to take it. For example, a fixed gauge on top of a domestic hot water storage vessel that is three meters high may not be easily or accurately read from ground level. Similarly, a movement gauge attached to a wall at high level may require that scaffolding be erected.
- Where there is concern regarding the air temperature of a space, how and where a handheld reading is taken shall be carefully described because of variances that can occur.
- Condition statements should not be reported using ambiguous phrases such as "good condition", as such labels are subject to various interpretations. Consider creating a scoring system which

translates to an objective definition or description associated with each score. For example, Score = 2 means 'puddle of water is less than 500 mm in diameter'.

6.4 Evaluation and Action

- Identify when remedial action is needed. The need for remedial action is achieved either by the operative understanding when this is appropriate, or following a review of the recorded information by a technically competent person.
- Both methods of raising follow-up action shall be timely and consistent if detrimental consequences are to be avoided.
- Set decision making instructions. One method of ensuring that the remedial action carried out by an unskilled operative is performed correctly is for the checklist to advise on acceptable values and what measures to take should a recorded value be within certain ranges. This information should be reported using a platform or tool that records the time and date, such as e-mail or telephone text. This communication will normally be to and from the WMC.

6.5 Managing and Delivering

- Select the information management tool. Facility Surveillances are not normally managed through the AMS/CMMS for several reasons but should be carefully designed and managed as they consume resources, manage risk and can contribute value to the contract.
- Facilities Surveillances are usually managed through a calendar or spreadsheet management system. Activities managed through the AMS/CMMS are usually captured in the KPI dataset unless the system has the facility to have a group of non-KPI work orders. Facility Surveillances are not usually a contract activity that would attract a KPI.
- Consider how the Facilities Surveillance information exchange will be made possible. Facilities Surveillances generally use a paper checklist, but modern technology, such as portable electronic 'tablet/PDAs' is increasingly used.
- Consider how the required number of reports is managed. At its most basic, Facility Surveillance checklists can be available to the operatives from a physical folder in an office, with the completed checklists returned to the 'IN' tray of the Facilities Management office. Ensuring that the expected number of returned checklists is received on a daily or weekly basis is a task carried out by a member of the office, who will consult with the operatives' Supervisor to determine if any checklists appear to be missing.
- Surveillance scheduling and programming should also be considered to manage work activities in areas at peak occupation or operational times. It is preferable, if possible, to arrange facility surveillances to be carried out during non-peak hours.

6.6 Training and Quality Assurance

- Risk assess the potential for errors arising from the Facility Surveillances. Training and Quality Assurance checks are crucial to the success of the Facility Surveillance for many reasons, such as ensuring that new staff operate to the expected standard.
- Ensure the recording technique is consistent. Training is recommended to ensure that the operatives are recording the correct parameters at the correct location in the correct manner. For example, it is possible that the operative could take the tap water temperature reading too soon or too late after turning the water flow on. Training will help ensure that such tasks are being carried out correctly and consistently across the team of operatives.
- The use of graphics or pictograms in checklists is recommended to assist where language barriers could compromise consistent delivery. These can be included on the checklist to aid the operative taking the reading, observing the hazard or ensuring the (restroom) facilities are clean. These graphics/photographs may be of the actual facility/asset, or generic images captured from a manual or the internet.
- Ensure that recordings are taken at the same location. Some Facilities Surveillances of engineered systems will require the use of a 'contact probe', such as taking the temperature of a fluid in pipework with a handheld device. The chance of errors associated with consistently taking the reading in the same location can be reduced by marking the exact location with a permanent color marker or securing an attached sign, and if necessary, identifying this marker with a unique number.

- It is recommended to periodically witness/observe the operative to ensure that they are carrying out the recording tasks correctly. These on-site assessments of the operative can also remove doubt that the operative is simply copying the figures from the previous reading and not actually observing at the point of data collection.

6.7 Information Management

- Consider how the gathered information will be managed. Information gathered by Facility Surveillances are normally either returned to an office for review, or retained at their relevant location as is commonly applied to restroom hygiene checklists.
- Transferring the recorded information into software for analysis and/or recording is potentially useful and necessary. This means that someone will have to take the information as it is gathered and enter it into a suitable software application, perhaps as simple as a spreadsheet designed for the purpose.
- Check that the information identified for recording will be needed. There is no merit in recording readings and doing nothing with the information/data.
- Completed copies of Facilities Surveillance report sheets should be stored in a suitably titled folder in the most appropriate office and scanned for business continuity reasons. Electronic recording devices, such as a removable memory device, should be utilized to regularly back-up Facilities Surveillance reports and prevent data loss.

6.8 Duration and Termination

- Consider the expected duration of and reasons for terminating the Facility Surveillance. Facility Surveillance can be both a temporary or permanent feature of an operational environment. Both should be periodically reviewed for the value they contribute to the contract and stakeholder experience. When the surveillances are proven to be no longer necessary or required, they should be discontinued and be communicated accordingly.
- Facility Surveillances can be initiated or prompted for several reasons; the reasons for and the timing of termination of the activity are also varied.
- The duration of the effort should be clearly defined. For example, the Resource Manager may be willing to support this request if the forecast is that the task will only last six months, but may decline the request if no end date is declared.
- Following a review of the data, it may be appropriate to reduce the number and frequency of the surveillances after a period, for example from a daily reading to a weekly frequency, before eventually discontinuing the readings altogether.
- The recording sheets or electronic system shall be updated and revised to reflect any changes.

6.9 Mobilization

- Once the requirements have been agreed, those who will carry out the procedure should be briefed, and possibly trained on site, before the start of the information gathering is required or urgent.

7.0 ATTACHMENTS

The following are recommended content for Facility Surveillance checklists:

7.1 EOM-ZO0-TP-000001: Engineered Systems – Facilities Surveillances Checklist

- A Facility Surveillance checklist should be designed to cover a period, most likely days or weeks. This will allow someone to review the recordings for trends or patterns so that an appropriate decision for action can be taken.
- A checklist should include the following fields as a minimum:
    - Date of each reading/recording
    - Time (if applicable) of each reading/recording
    - Building ID
    - Location ID
    - Equipment ID
    - Operative ID (initial/signature box) for each reading taken
    - Space for description of observation and remedial action

- An Engineered Systems checklist may also likely include:
    - System ID
    - Reading point ID (description or ‘tag’ number)
    - Unit of measurement
    - Visual observation

7.2 EOM-ZO0-TP-000031: On Site – Facilities Surveillances Checklist

- A checklist that remains on-site at the location to which it pertains (e.g. a restroom hygiene checklist stored in a folder within the restroom facility of a hotel, school, hospital, public building or similar).
- This checklist is intended to be reviewed periodically by a Supervisor/Manager to ensure that the cleaning team is always maintaining cleanliness.
- This checklist will likely include the same spaces/boxes as checklist 1.

Attachment 1 - EOM-ZO0-TP-000001 - Engineered Systems Facility Surveillances Checklist

Building ID	Location ID	Equipment ID	Operative(s) ID

System ID

Date	Time	Reading Point	Unit	Observation	Operatives Initials (ID)

Instructions to Operatives

Attachment 2 - EOM-ZO0-TP-000031 - Onsite Facilities Surveillances Checklist

Building ID	Location ID	Equipment ID	Operative(s) ID

System ID

Date	Time	Asset / Item	Unit	Observation	Operatives Initials (ID)

Instructions to Operatives