

RECONNAISSANCE TRAINING PACKAGE

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Issue date: 7th Oct 2011

Aim

The aim of this package is to enhance SES members' understanding and knowledge of the different aspects and importance of reconnaissance/gathering of field intelligence during operations.

Definition

Reconnaissance: The act of reconnoitring; preliminary examination or survey. Specifically

- (a) (Geol.) An examination or survey of a region in reference to its general geological character.
- (b) (Engin.) An examination of a region as to its general natural features, preparatory to a more particular survey for the purposes of triangulation, or of determining the location of a public work.
- (c) (Mil.) An examination of a territory, or of an enemy's position, for the purpose of obtaining information necessary for directing military operations; a preparatory expedition.

Purpose

1. Why recon is important

Reconnaissance and the gathering of field intelligence during operational times provide important information that contributes tactically and strategically to operational decision-making. During storm, flood and tsunami events, decisions are made regarding the management of resources and task priorities. Time can be enhanced by efficient and effective reconnaissance, thus reducing the need to 'hurry up and wait'.

There are two main types of recon:

Strategic – which helps manage the overall response, and

Tactical – which helps complete individual tasks.

2. Who needs the information?

The managers of any incident/event need to know what needs to be done and to plan to achieve this.

Good Information = Good Decisions

Bad information = Bad Decisions

No Information = No or poor Decisions

Initial versus Comprehensive

Initial recon is generally a hard and fast approach using electronic/multi agency approach to gathering field Intel and is usually what occurs in the first 1-6 hours of the operation. This helps identify what additional or comprehensive recon needs to be achieved and a targeted plan is developed to work out how, where, when and what needs to be done.

Comprehensive recon is a methodical and systematic approach to gathering field Intel, its targeted so that a complete picture of impact is obtained for the combat agency. It can be undertaken using various methods, some of which are described in detail below.

When to do reconnaissance

Before, during, and after

As the name suggests, reconnaissance shouldn't be limited to the beginning of an operation. Key strategically decisions, intelligence updates and team tasking are some of the key operational decisions that need to be undertaken based on regular/ongoing reconnaissance.

One or two jobs

This can be as important as in a major event. Early reconnaissance could eliminate the need to respond a team or it could highlight the need for specialist equipment or skills. It can certainly go some way to reducing the time spent in the field.

Multi team events

A multi team event generally signifies an event of a larger scale and may mean an abundance of untasked jobs. If this is the situation, swift and reliable reconnaissance is essential to reducing the length of an event, unnecessary tasking, prioritising of tasks and utilising resources.

Major disaster

Under these circumstances, reconnaissance is an integral part of any rescue strategy. Thorough and comprehensive reconnaissance is a major part in reducing loss of life, swift rescue of casualties, targeting resources to key areas and reducing the time spent in recovery mode.

Based on Intelligence received

Often priority tasking is based on intelligence received due to reconnaissance. It could be the decision to evacuate, change the focus of an operation or the need to prioritise a job based on good intelligence gained.

Who can do reconnaissance

1. Recon Team

- Size – Generally two members make up a recon team. Alternatively individuals can work one out, thus resulting in many recon teams. This is dependant on the amount of members available.
- Resources available – This varies and depends on what each Unit has available. A recon team should have a vehicle, radio, mobile phone and possibly remote access to RFA.
- Who does a Recon team report to – Generally the recon team will report to the Operations team, but when strategic reconnaissance is being undertaken for Intel gathering the recon team may report directly to the Planning team.

2. Experienced versus inexperienced

It could be said that anyone can undertake reconnaissance work and that may well be the case. However, gathering field Intel is only ever as good as the person undertaking it.

To use a phrase from the SES Landsearch manual – Seeing v's observing

An inexperienced member will see the job and can tell you what he/she is seeing with no thought or knowledge to look beyond the picture at hand.

An experienced member will observe the job and look beyond the immediate scene. He/she mentally prioritises the situation, looks for potential hazards, thinks what additional resources may be required and confirms the job is within the capability of the SES. They may also have the ability to estimate a time to undertake the task.

(How to become a skilled recon member is explained in detail later).

3. Other Agencies

Many other agencies/organisations can undertake reconnaissance work. Often allocating reconnaissance work to other agencies can be a situation decision based on where an incident may have occurred, where the agency is located or the scale of the operation.

When making the decision to outsource reconnaissance work, the combat agency must consider the other agencies ability to carry out effective and accurate reconnaissance work in relation to the combat agencies role.

Methods of conducting reconnaissance

Determining the method of conducting reconnaissance is a situational decision, often based on the type and scale of the disaster. Occasionally resourcing issues may influence the method chosen, but for each method below there are always advantages and disadvantages to each method.

1. Strategic Methods

Sectorisation/Segmentation

- Geographic – The use of suburb, street, community parameters or local government areas are all methods of sectorising geographical areas.
- Resource Utilising – This method utilises other agencies that are in the field undertaking their own operational duties to report localised information that may be beneficial to the SES. Eg. Police on general duties can provide situational feedback as they drive around the suburbs.

RFA Online

The database for capturing requests for assistance is ideal for filtering, categorising and prioritising tasks based on user inputs. By grouping tasks into specific categories it can easily be seen where major areas of operation should focus. However remembering that where RFA's are not coming from, when the disaster should have affected that area is as important as where they are coming from. It may mean serious telecommunications failure or total obliteration of that area. This may turn out to be a priority recon area rather than individual tasks.

Adv.	Categorises damage and areas. Instantaneous data
Disadv.	Relies on human input. No power – no RFA

Mapping Online

This online mapping system can be used in conjunction with RFA online and allows users to view near real time locations of RFA's and BoM weather data. This is particularly important when looking at the spatial distribution of RFA's and for organising sectors or tasking of jobs to field teams.

Mapping Online can be accessed on the SES Network and there is a link on the LHQ Intranet under "Operational Links" <http://mapping.ses.nsw.gov.au/mappingonline>

Aerial

Using this method of recon allows for large areas of impact to be covered very quickly. When undertaking this method you need to ensure people being used in aerial recon are able to match air to ground visuals/components. They need to know what damage types look like from the air and can match aerial locations onto a two dimensional map.

A limiting factor of aerial reconnaissance is its inability to capture detail, trees down, impassable roads and major roof damage can be seen but detailed damage to structures can be missed.

Adv. Quick appreciation of the size of job

Disadv. Expensive. Aircraft not always available. Observer must be skilled in 2D view.
Weather affected

Satellite

This method of reconnaissance is primarily used by large governing bodies. Eg EMA or the SES for riverine flood environments but it can be used for other types of emergencies. In recent worldwide events the availability of satellite imagery has been utilised to scale the size of destruction resulting from Tsunamis, earthquakes' and flooding.

Adv. Good for large scale Ops.

Disadv. Can be delays in getting data. Not always available

Coordination

Using a coordinated approach to reconnaissance has successfully been used in many major operations. Often the scale of the incident is too large for the combat agency to handle by themselves, in this situation a multi agency, multi sectorising coordinated approach can quickly capture the Intel required.

Adv. Quick. Good in large scale Ops

Disadv. Agencies not always talking the same language

2. Tactical Methods

Vehicular

This is the most common form of tactical reconnaissance the SES uses. It's simply where the SES will drive around effected streets or communities gathering recon/Intel on individual tasks. Likewise in large operations it can be used quickly and effectively to scale the size of an incident.

Adv. Good for small pockets of destruction.

Disadv. Requires additional resources that may not be available.

House by house

A house-by-house approach to reconnaissance is often limited to large-scale incidents where areas of major devastation have occurred. By door knocking each house a detailed and comprehensive picture of the situation can be gathered. Using this detailed Intel key operational taskings, resourcing decisions and priorities can be made.

Adv. Comprehensive overview of situation

Disadv. Very labour intensive, Slow

Sectorised

Sectorising of an operation/incident for reconnaissance purposes can be done for a number of reasons. Similar to those reasons mentioned in "Strategic methods", the size, locality or accessibility to an incident may require additional agencies to be engaged.

For this reason sectorising a portion of the affected area to another agency allows greater flexibility of resources, enables the operation to be completed quicker and isn't as demanding on the combat agency.

Alternatively, sectorising can be used when there are a large number of SES field teams working under the control of one operational command. Sectorising an area into manageable pockets allows for greater management and functionality of the operation, with each sector managing its own recon and tasking.

Adv. Faster coverage of large incidents, Less draining on one agency,
Disadv. Lack of consistency across agencies

By phone

There are 2 scenarios where phone recon can be utilised – Duty Officer call taking and Operational tasking.

1. Duty Officer call taking – After the OOC receives the call, the Unit D.O will make contact with the resident. At this point the D.O based on his/her phone recon can either decline the task or gather further recon pertaining to the job. The Duty Officer should utilise the “duty officer flowchart – see Appendix A” to optimise their conversation with the resident.
2. Operational task reduction – The use of phone reconnaissance is often overlooked until well into an operation. By using this valuable resource the SES can liaise with the resident and vice versa to;
 - a) seek further information about the RFA,
 - b) determining where and how serious the needs are,
 - c) advise the resident of task related issues or
 - d) to cancel the RFA.

When undertaking phone reconnaissance it is important to conduct the conversation at your pace. Often the resident is anxious and worried about their situation and this can be conveyed into a larger than actual situation. It should also be noted that clarification of the task should be sought. A large tree or large branch is often a lot smaller than visualised by the resident.

Adv. Greater appreciation of task, Can reduce number of RFA's
Disadv. Can be time consuming, Dramatising of task

Public

The inquisitive nature of the public can be a useful tool. A tree down on a road, in a park, a flapping loose sign or a flooded roadway is often brought to the attention of the SES by a member of the public who has been passing by.

Adv. Real time reconnaissance, Highlights areas of concern
Disadv. Duplication of task, Dramatising of task, Ties up resources

Becoming a Skilled Recon member

There is no formal training for recon/Intel gathering within the SES, it is hoped that this package, coupled with selecting the appropriate experienced members will return good, effective Intel.

When selecting the appropriate member for recon, it should be remembered there is no substitute for life's experience. Over time, a field members experience develops with the multitude of varying tasks they undertake. It's this on-the-job experience/training of spotting danger and hazards, estimating time, recognising quick solutions or alternative methods that makes him/her the ideal recon person.

What experience brings to recon, can often be overlooked or seen in a different light by the untrained.

While experience is recognised as being the key to becoming a skilled recon member, it is not a skill that should remain solely with a handful of individuals. It is therefore advisable to have a good cross mix of experience and skill in the recon team composition.

Physically undertaking “Storm Damage Reconnaissance”

Prior to physically undertaking storm damage reconnaissance work there are a number of key points that all members need to consider, these include:

- Being objective to the situation
- Being of clear mind
- Being aware of the combat agency’s role
- Not becoming emotionally involved
- Knowing the limitations of the responding field teams
- Remembering what you are there to do

Note: The points below should be addressed in the field in the order they appear below

1. Attendance versus NFA (no further action)

This should be the prime focus of the recon team in keeping with the SES role.

“To undertake temporary repairs as a result of storm and tempest damage”. Often it can be obvious that the situation requires the SES to undertake operational work.

- Water entering dwelling
- Tree/branch on house
- Roofing dislodged etc.

In this instance the recon person should move onto step 2. (See below)

It should also be remembered, whether its the Duty Officer taking the initial call or 2-3 days into an operation, not all RFA’s received are a job for the SES. Each job should be assessed on its merit with some consideration given to some of the factors below:

- Trees down in the yard
- Elderly or disabled residents
- Poor housekeeping by the owner
- Grounds maintenance or clean-up crews etc.
- Leaking roof/flooding jobs but rain has stopped and no further rain is forecast.

2. Prioritising

Once the job has been confirmed as an SES task it should then be prioritised based on the urgency of assistance required. Some of the factors that can influence this priority are:

- Resident has medical needs that require urgent SES action
- The Aged/Infirm or disabled
- Possibility of further injury to the public
- Possible further structural damage
- Type of structure (resident – commercial – industrial)
- The Units current workload
- Time taken to undertake task
- Best utilisation of Unit resources

When prioritising jobs it should be remembered that RFA’s are already given a priority ranking when entered into the online system. Prioritising the job beyond this ranking is for the benefit of the Unit and goes some of the way to categorising their tasking order. As a rule of thumb, prioritising jobs should fall into 3 categories – Low, Medium and High. Once a recon team has prioritised a task this information can be detailed on the RFA sheet or via the radio to Ops as a matter of urgency.

3. Hazards

The danger in any SES operation is the unseen hazards that accompany the type of work the SES undertakes. Even as part of a recon team the potential for harm is always present. It is therefore very important to identify and document any potential hazards that the recon team may see. Often field teams in their haste to complete a task can overlook potentially dangerous situations. Night operations, working on or near roadways, near swollen creeks,

unseen fallen power lines or hung up branches can prove fatal, therefore *“If you see a hazard, make a note of it on the RFA”*

4. Quick fix jobs

Often an RFA can be categorised as a “quick fix”. This is where a recon team of 1 or 2 members can provide a quick simple fix and thus eliminate the need for a field team to respond. The recon team only needs to carry a few basic items like rope/cordage, a bush saw and some barrier tape and quite a few jobs can be do in 5 minutes. Some of these quick jobs could include:

- Tying down a loose/flapping awning
- Securing a fence from blowing over
- Removing a branch across a driveway
- Barrier taping off a dangerous tree
- Unblocking a drain

It should be remembered that these jobs, as the name suggests are a quick fix. Accessing heights or operating dangerous equipment is not a recon quick fix job.

5. SES versus Contractor

For the purpose of this section, a contractor is any other agency other than the SES.

Once again there are a number of key points that as a Recon team you will need to consider as you undertake your reconnaissance work. Some of these points will be decisions made by the IMT (Incident Management Team) or are ongoing mutual-aid agreements that affect your reconnaissance decision. Make yourself familiar with these prior to commencing your recon shift. These may include:

- Are the RFS or Fire & Rescue NSW assisting with the operation?
- Is Council clean-up happening?
- Trees on secondary roads are Councils' job.
- Trees on major roads are RTA jobs.
- Asbestos related jobs would need to be referred to Fire & Rescue NSW.
- Trees down in yards can be done by RFS in daylight hours.

Another contractor the SES utilises is the Tree-Lopper. These specialist tree cutters are often engaged when the recon team deems a tree job too difficult, too high, too dangerous or beyond the available SES resources. The referring of tree related tasks to a lopper is best done by an experienced SES chainsaw operator.

5. Estimating job timings

This is an area of reconnaissance that is difficult to get right. Ongoing experience and/or operational team leading will certainly improve ones ability to correctly estimate job timings.

When estimating the time of a job/task the recon team should consider some standard operational tasks that accompany most jobs. Some of these include:

- Resident interface, TL recon and paperwork = 10min
- Unpacking and packing of equipment = 15min
- Erecting and removing an RSK = 15min

The task itself then needs to be considered. Eg: Water entering, Roof repairs or tree on the roof etc all have varied timings. In some situations addition timings should be included for things like the weather, day or night and the field teams' experience.

It is clear from the timings above that there is no such thing as a 5-minute job.

6. Additional resources (size, etc)

A very important part of reconnaissance work is identifying the need for additional resources based on the situation. Whether its storm, flood or tsunami operations often a field team is under resourced for complexed tasks or a specialist piece of equipment may be required. Some things that may be considered as additional resources could include;

- Long ladder, pole saw or larger chainsaw
- Additional sandbags or shoring equipment
- Traffic Control or barricading
- Further scene lighting
- Cherry Picker or crane
- Other agencies and/or the use of their equipment.

When seeking additional resources it's beneficial to have a good knowledge base of what resource is required, whether that be the size of a cherry picker or the quantity of sandbags required. Often a company representative can provide this type of information.

7. Size or make up of team attending

This is often not something the reconnaissance team needs to be worried about, but there may be occasions where the make up or the size of the field team responding to the task may need to be considered.

- Does the task require more than one chainsaw operator?
- Does the task require specialist experience?
- Does the task require excessive manual labour?

Providing this type of feedback on the RFA may reduce wasted time in the field.

8. Storm Damage Recon Flowchart

See Appendix B

Physically undertaking “Flood Reconnaissance”

There are various types of flooding that the SES may be called upon to assist, these include but are not limited to Flash Flooding, Riverine Flooding, Tsunami inundation, Dam or pipeline failure and Storm Surge.

It's important to remember when conducting flood reconnaissance that the data gained is often used in both strategic and tactical decision-making. Much of the flood Intel received during an event goes towards preparing/revising plans etc for future events. Therefore it is often necessary to capture as much data as possible. The use of photos is a good media of recording river levels, inundated roads and the like.

Flash Flooding

Flash flooding is generally a result of short, intense rainfall, often from severe thunderstorms resulting in rapid rises in water levels over a short period of time. Within the Illawarra, we are prone to flash flooding due to the many creeks that have their headwaters in the steep escarpment and the increasing urban development, which restricts water run-off. Often flash flooding can result in significant property damage and major social disruption but usually these elevated water levels will not last more than a few hours.

Undertaking flood reconnaissance in times of flash flooding can be very dangerous and often due to the quick onset of flooding, can not always be performed. It is also noted that due to the nature of flash flooding, flood reconnaissance work is very much a reactive task and no sooner will the recon team commence gathering flood Intel, then they'll be forced to change to Storm damage reconnaissance because water levels have receded and the SES is now in recovery mode.

When undertaking Flash Flooding reconnaissance it is important to use all forms of reconnaissance highlighted in the section “Methods of gathering reconnaissance”. Because of the rapid onset of flash flooding much of the Intel gathered comes from other agencies or from members of the public.

Should a recon team be deployed, it's important to capture data such as:

- Persons trapped in or on cars.
- Persons that may need evacuating from houses.
- Specific roads that are affected
- Possible water levels across affected roads.
- Possible water levels in swollen creeks.
- Which creeks have over-topped their banks?
- Addresses of affected properties – residential, industrial or commercial.
- Potential hazards. Eg sewerage overflows, open storm pits
- The areas/suburbs most affected by the event.

While many of the items above may seem trivial at the time of the event, witnessing these events first hand is the best form of intelligence gathering for the planning team.

Riverine Flooding

Riverine flooding occurs when rivers burst their banks, it can be a slow onset flood which generally happens in the flatter areas of western NSW or QLD, or it can be a quick onset flood which occurs closer to coastal regions where rivers are steeper and faster flowing. In both cases, water inundates surrounding low-lying areas resulting in major property damage and/or livestock and crop loss.

Within the Illawarra we don't get a lot of riverine flooding, however from time to time we do see some localised ponding in the low-lying areas of Kanahooka, West Dapto and parts of Albion Park. During these events there is minimal on the community. In other areas of our region the riverine flooding can be quite significant and at times the Wollongong Unit have responded to OOA assistance.

Since riverine flooding is of a slower onset than flash flooding there are far greater warning systems in place to alert the public of the imminent threat. The BOM website lists the various warnings that may be used. Therefore the public are greater prepared for such events and often have taken the necessary action to prevent major property loss.

Undertaking flood reconnaissance during riverine flooding has a major focus on collecting data for strategic planning, whether this is through monitoring river gauges, collecting rainfall readings or monitoring potential impact zones. Much of the data collected by undertaking good reconnaissance can be used in the “modelling” for current and future events. In some circumstances the issuing of flood warnings is based on reconnaissance work done during an event. Likewise, after an event Council flood plans and other emergency plans are reviewed based on good reconnaissance done during an event.

When undertaking riverine recon it's important to capture data such as:

- Persons that may have stayed with their house.
- Persons that may require evacuating.
- Possible livestock that may require fodder drops.
- Specific roads that are affected and water levels on these roads.
- River gauge heights at particular times.
- Potential hazards. Eg sewerage overflows, open storm pits
- The areas/suburbs most affected by the event.

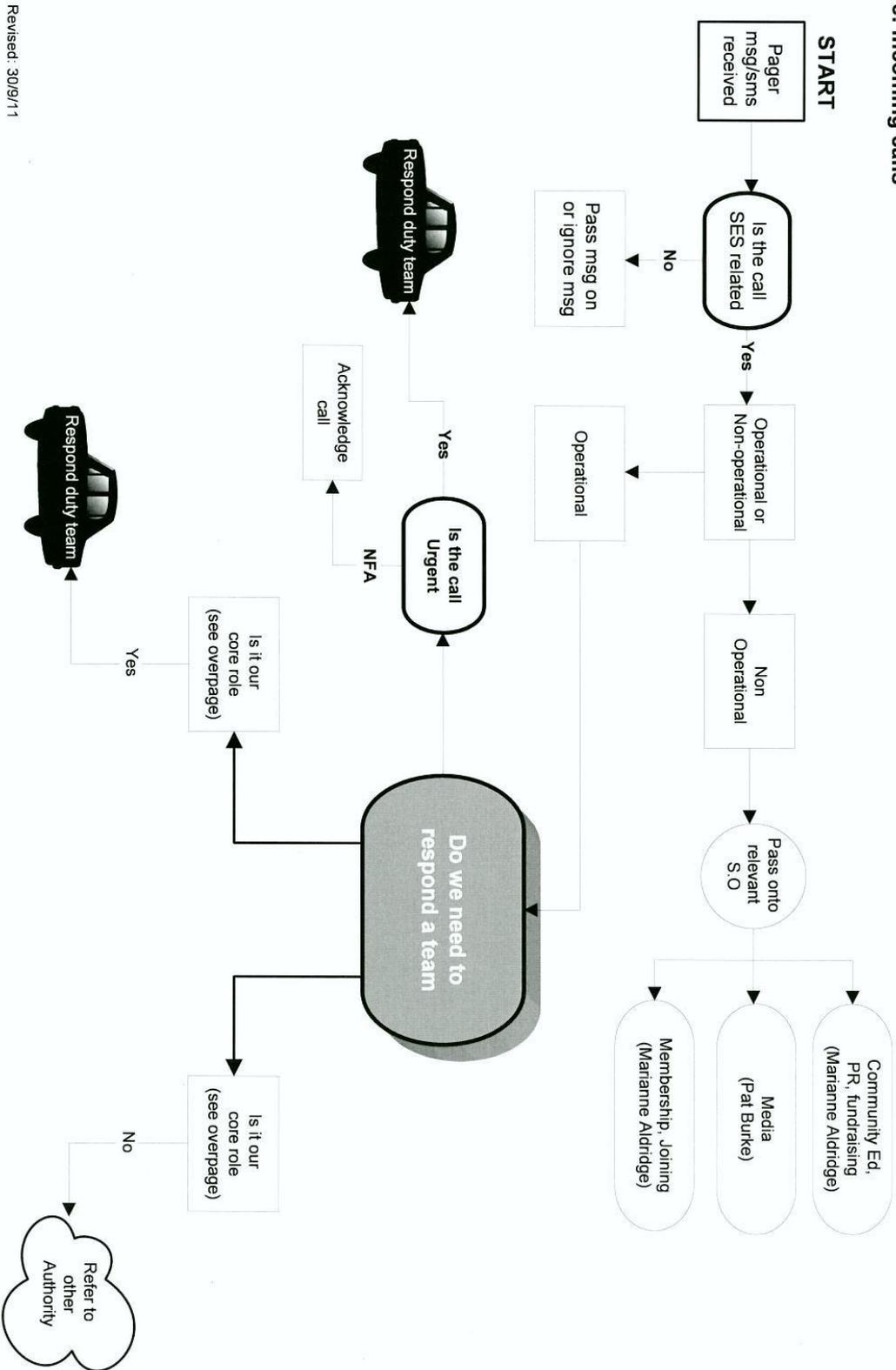
Conclusion

Having reviewed this document it is clear that reconnaissance work/gathering field Intel is an integral part of all SES operations. Reconnaissance work is an ongoing process that given the appropriate resources and having adequately trained personnel can be used for informed decision making, which can be the difference between life and death, optimising time and resources and reducing the length of an event.

Good reconnaissance is a result of observing the whole picture through experience eyes.

Appendix A

Duty Officer Flowchart re: Incoming calls



Revised: 30/9/11

Wollongong SES Recon Flowchart - (Task-Focus)

