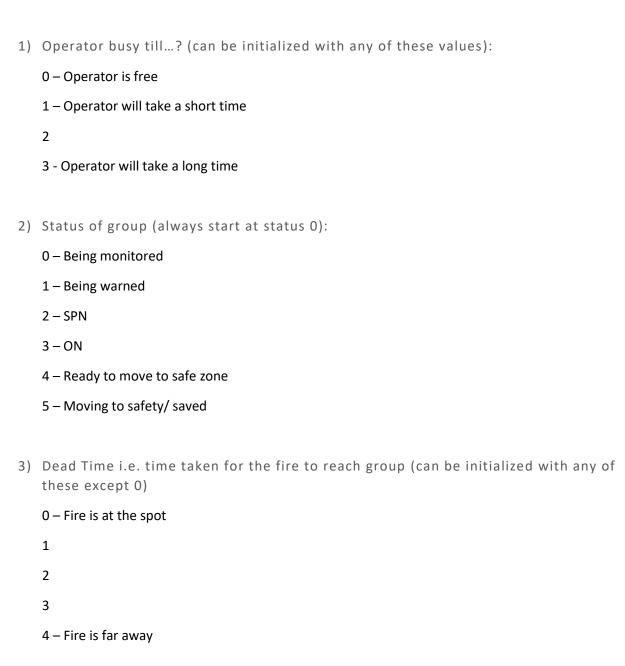
## Human Swarm state space:

Separate state space for each group of civilians. We learn one policy for the interactions between a UAV and a civilian group and different instances of the same policy will run simultaneously with the different civilian groups. The only binding factor is the 'operator busy time' which will be a common variable across the different instances of the policy.

## State variables:



- 4) Guidance information (initialized with any of these values)
  - 0 unknown
  - 1 self guide
  - 2 UAV guide
  - 3 vehicle guide
- 5) Negotiation status (initialized with 0)
  - 0 requires warn i.e. no warnings issued
  - 1 requires SPN i.e. warning issued
  - 2 requires ON i.e. SPN issued

Number of states = 1440

## Actions:

- 1) Interrupt Operator
- 2) Warn
- 3) SPN
- 4) Query for guide details (only when group is ready to move?)
- 5) Guide
- 6) Call for vehicle guide
- 7) Wait

## Rewards:

- 1) Group saved: +5000
- 2) Group dies: -5000