

es-atom-lemma1^{0,22}

$\forall es:ES, a:Atom1, e:E.$

$e \text{ sends } a \vee (\text{state when } e):state@loc(e) \gg a$

$\Rightarrow loc(e) \gg a$

$\vee (\exists e':E. e' \leq e \ \& \ e' \text{ receives } a)$

$\vee (\text{state when } es\text{-init}(es;e)):state@loc(es\text{-init}(es;e)) \gg a$