





$$hasObligation(\rho_m, g_j) \rightarrow hasPermission(\rho_m, g_j) \quad (2)$$

$$hasCondition(g_i, cg_n) \wedge \neg isPresent(c_k) \wedge (c_k \in cg_n) \wedge tryReach(ag_m, g_i) \rightarrow \\ violationCondition(ag_m, g_j, c_k) \quad (3)$$

$$hasRelation(g_i, rg_n) \wedge \neg isPresent(r_k) \wedge (r_k \in rg_n) \wedge tryReach(ag_m, g_i) \rightarrow \\ violationRelation(ag_m, g_i, r_k) \quad (4)$$

$$hasEntity(g_i, eg_n) \wedge \neg isPresent(e_k) \wedge (e_k \in eg_n) \wedge tryReach(ag_m, g_i) \rightarrow \\ violationEntity(ag_m, g_i, e_k) \quad (5)$$

$$violationCondition(ag_m, g_i, c_k) \wedge hasRisk(c_k, risk_j, f_m) \rightarrow \\ consequenceOfBadEvent(g_i, ag_m, risk_j, f_m) \quad (6)$$

$$violationRelation(ag_m, g_i, r_k) \wedge hasRisk(r_k, risk_j, f_m) \rightarrow \\ consequenceOfBadEvent(g_i, ag_m, risk_j, f_m) \quad (7)$$

$$violationRelation(ag_m, g_i, r_k) \wedge affects(r_k, r_n) \wedge hasPossibility(r_n, false) \rightarrow \\ hasPossibility(r_n, true) \quad (8)$$

$$violationEntity(ag_m, g_i, e_k) \rightarrow stopIn(g_i) \quad (9)$$

$$hasPossibility(r_k, true) \wedge happensBadEvent(r_k) \wedge hasRelation(g_i, rg_n) \wedge (r_k \subset rg_n) \\ \wedge hasRisk(r_k, risk_j, f_m) \wedge tryReach(ag_m, g_i) \\ \rightarrow consequenceOfBadEvent(g_i, ag_m, risk_j, f_m) \quad (10)$$

$$consequenceOfBadEvent(g_k, ag_m, risk_j, f_m) \rightarrow stopIn(g_k) \quad (11)$$

$$\neg stopIn(g_k, agg_n) \wedge (ago_n \subset agg_n) \rightarrow isReached(g_k) \quad (12)$$

$$hasRole(ag_n, \rho_m) \wedge hasPermission(\rho_m, g_j) \wedge nextGoal(g_i, g_j) \wedge isReached(g_i) \\ \rightarrow tryReach(ag_n, g_j) \quad (13)$$

$$hasRole(ag_n, \rho_m) \wedge hasPermission(\rho_m, g_i) \wedge lastGoal(g_i, \rho_m) \wedge isReached(g_i) \\ \rightarrow stopIn(g_i) \quad (14)$$