x = branch constraints

x = node constraints

$$\exists \mathbf{A}_2 \in \mathbf{O}\ .\ \exists \mathbf{f}_2 \in \mathbf{F}\ .\forall b_2.\ \exists \mathbf{A}_1 \in \mathbf{O}\ .\ \exists \mathbf{f}_1 \in \mathbf{F}\ .\forall b_1.\ \exists \mathbf{A}_0 \in \mathbf{O}\ .\ \exists \mathbf{f}_0 \in \mathbf{F}\ .$$

$$\bigwedge_{\mathbf{f}\in\mathbf{G}} \left(\mathbf{f}_0 \vee \overset{1}{\bigvee_{\mathbf{i}\in[1..\mathbf{depth}]}} \neg b_{\mathbf{i}} \right) \wedge \bigwedge_{\substack{\mathbf{A}\in\mathbf{O} \\ \neg(\mathbf{Cond_A}\subseteq\mathbf{I})}} \left(\neg\mathbf{A}_0 \vee \overset{2}{\bigvee_{\mathbf{i}\in[1..\mathbf{depth}]}} b_{\mathbf{i}} \right)$$

$$\wedge \bigwedge_{\mathbf{i}\in[0..\mathbf{depth}]} \bigwedge_{\mathbf{A}\in\mathbf{O}} \left(\bigwedge_{\mathbf{f}\in\mathbf{Add_A}} (\neg\mathbf{A}_{\mathbf{i}} \vee \mathbf{f}_{\mathbf{i}}) \wedge \bigwedge_{\mathbf{f}\in\mathbf{Del_A}} (\neg\mathbf{A}_{\mathbf{i}} \vee \neg\mathbf{f}_{\mathbf{i}}) \right) \quad 3$$

$$\wedge \bigwedge_{\mathbf{i}\in[1..\mathbf{depth}]} \bigwedge_{\mathbf{A}\in\mathbf{O}} \bigwedge_{\mathbf{f}\in\mathbf{Cond_A}} \left(\neg\mathbf{A}_{\mathbf{i}} \vee \mathbf{f}_0 \vee b_{\mathbf{i}} \vee \bigvee_{\mathbf{j}\in[1..\mathbf{i}-1]} \neg b_{\mathbf{j}} \right) \quad 4$$

$$\wedge \bigwedge_{\mathbf{i}\in[1..\mathbf{depth}]} \bigwedge_{\mathbf{A}\in\mathbf{O}} \bigwedge_{\mathbf{f}\in\mathbf{Cond_A}} \left(\neg\mathbf{A}_0 \vee \mathbf{f}_{\mathbf{i}} \vee \neg b_{\mathbf{i}} \vee \bigvee_{\mathbf{j}\in[1..\mathbf{i}-1]} b_{\mathbf{j}} \right) \quad 5$$

$$\wedge \bigwedge_{\mathbf{f}\in(\mathbf{F}\setminus\mathbf{I})} \left(\neg\mathbf{f}_0 \vee \bigvee_{\substack{\mathbf{A}\in\mathbf{O} \\ (\mathbf{f}\in\mathbf{Add_A})\wedge(\mathbf{Cond_A}\subseteq\mathbf{I})}} \mathbf{A}_0 \vee \bigvee_{\mathbf{i}\in[1..\mathbf{depth}]} b_{\mathbf{i}} \right) \quad 6$$

$$\wedge \bigwedge_{\mathbf{i}\in[1..\mathbf{depth}]} \bigwedge_{\mathbf{f}\in\mathbf{F}} \left(\mathbf{f}_0 \vee \neg\mathbf{f}_{\mathbf{i}} \vee \bigvee_{\substack{\mathbf{A}\in\mathbf{O} \\ \mathbf{f}\in\mathbf{Add_A}}} \mathbf{A}_{\mathbf{i}} \vee b_{\mathbf{i}} \vee \bigvee_{\mathbf{j}\in[1..\mathbf{i}-1]} \neg b_{\mathbf{j}} \right) \quad 7$$

$$\wedge \bigwedge_{\mathbf{i}\in[1..\mathbf{depth}]} \bigwedge_{\mathbf{f}\in\mathbf{F}} \left(\mathbf{f}_{\mathbf{i}} \vee \neg\mathbf{f}_0 \vee \bigvee_{\substack{\mathbf{A}\in\mathbf{O} \\ \mathbf{f}\in\mathbf{Add_A}}} \mathbf{A}_0 \vee \neg b_{\mathbf{i}} \vee \bigvee_{\mathbf{j}\in[1..\mathbf{i}-1]} b_{\mathbf{j}} \right) \quad 8$$

$$\wedge \bigwedge_{\mathbf{f}\in\mathbf{I}} \left(\mathbf{f}_0 \vee \bigvee_{\substack{\mathbf{A}\in\mathbf{O} \\ (\mathbf{f}\in\mathbf{Del_A})\wedge(\mathbf{Cond_A}\subseteq\mathbf{I})}} \mathbf{A}_0 \vee \bigvee_{\mathbf{i}\in[1..\mathbf{depth}]} b_{\mathbf{i}} \right) \quad 9$$

$$\wedge \bigwedge_{\mathbf{i}\in[1..\mathbf{depth}]} \bigwedge_{\mathbf{f}\in\mathbf{F}} \left(\neg\mathbf{f}_0 \vee \mathbf{f}_{\mathbf{i}} \vee \bigvee_{\substack{\mathbf{A}\in\mathbf{O} \\ \mathbf{f}\in\mathbf{Del_A}}} \mathbf{A}_{\mathbf{i}} \vee b_{\mathbf{i}} \vee \bigvee_{\mathbf{j}\in[1..\mathbf{i}-1]} \neg b_{\mathbf{j}} \right) \quad 10$$

$$\wedge \bigwedge_{\mathbf{i}\in[1..\mathbf{depth}]} \bigwedge_{\mathbf{f}\in\mathbf{F}} \left(\neg\mathbf{f}_{\mathbf{i}} \vee \mathbf{f}_0 \vee \bigvee_{\substack{\mathbf{A}\in\mathbf{O} \\ \mathbf{f}\in\mathbf{Del_A}}} \mathbf{A}_0 \vee \neg b_{\mathbf{i}} \vee \bigvee_{\mathbf{j}\in[1..\mathbf{i}-1]} b_{\mathbf{j}} \right) \quad 11$$

$$\wedge \bigwedge_{\mathbf{i}\in[0..\mathbf{depth}]} \bigwedge_{\mathbf{A}\in\mathbf{O}} \bigwedge_{\mathbf{f}\in\mathbf{Cond_A}} \bigwedge_{\substack{\mathbf{B}\in\mathbf{O} \\ \mathbf{A}\neq\mathbf{B}\wedge\mathbf{f}\in\mathbf{Del_B}}} (\neg\mathbf{A}_{\mathbf{i}} \vee \neg\mathbf{B}_{\mathbf{i}}) \quad 12$$