Rule Level (rule-evaluation)

1) $$\frac{y,p \vdash (e,regs) \Downarrow regs_1 \qquad regs_1 = Break}{\Gamma, y, p \vdash \langle e::es, regs\rangle \Rightarrow Continue} \qquad \text{no match}$$

2) $$\frac{y,p \vdash (e,regs) \Downarrow regs_1 \qquad regs_1 = Accept}{\Gamma, y, p \vdash \langle e::es, regs\rangle \Rightarrow regs_1} \qquad \text{accept}$$

3) $$\frac{y,p \vdash (e,regs) \Downarrow regs_1 \qquad reg_1 = Drop}{\Gamma, y, p \vdash \langle e::es, regs\rangle \Rightarrow regs_1} \qquad \text{drop (drop IS REJECT in nftables)}$$

4) $$\frac{}{\Gamma, y, p \vdash \langle [], regs\rangle \Rightarrow regs} \qquad \text{skip}$$

Ruleset level

1) $$\frac{\Gamma, yp \langle rs_1, regs\rangle \Downarrow regs_1 \qquad regs_1 = Continue \qquad \Gamma, y, p \vdash \langle rs_2, regs_1\rangle \Downarrow regs_2}{\Gamma, y, p \vdash \langle rs_1 :: rs_2, regs\rangle \Rightarrow regs_2} \qquad \text{seq}$$

2) $$\frac{regs \neq Continue}{\Gamma, y, p \vdash \langle rs, regs\rangle \Downarrow regs} \qquad \text{decision}$$

3) $$\frac{\Gamma, y, p \vdash \langle e::es, regs\rangle \Downarrow regs_1 \qquad regs_1 = Jump \qquad \Gamma, y, p \vdash \langle \Gamma_c, regs_1\rangle \Downarrow regs_2 \qquad \Gamma, y, p \vdash \langle rs, regs_2\rangle \Downarrow regs_3}{\Gamma, y, p \vdash \langle r::rs, regs\rangle \Downarrow regs_3} \qquad \text{jump}$$

4) $$\frac{\Gamma, y, p \vdash \langle e::es, regs\rangle \Rightarrow regs_1 \qquad regs_1 = Goto \qquad \Gamma, y, p \vdash \langle \Gamma_c, regs_1\rangle \Downarrow regs_2}{\Gamma, y, p \vdash \langle r::rs, regs\rangle \Downarrow regs_2} \qquad \text{goto}$$

5) $$\frac{}{\Gamma, y, p \vdash \langle [], regs\rangle \Downarrow regs} \qquad \text{skip}$$

6) $$\frac{\Gamma, y, p \langle e::es, regs\rangle \Downarrow regs_1 \qquad regs_1 = Continue \qquad \Gamma, y, p \vdash \langle rs, regs_1\rangle \Downarrow regs_2}{\Gamma, y, p \vdash \langle r::rs, regs\rangle \Rightarrow regs_2} \qquad \text{continue}$$

$\left.\vphantom{\begin{array}{c}5\\6\end{array}}\right\}$ empty

7) $$\frac{\Gamma, y, p \langle e::es, regs\rangle \Downarrow regs_1 \qquad regs_1 = Accept}{\Gamma, y, p \vdash \langle r::rs, regs\rangle \Rightarrow regs_1} \qquad \text{accept}$$

8) $$\frac{\Gamma, y, p \langle e::es, regs\rangle \Downarrow regs_1 \qquad regs_1 = Drop}{\Gamma, y, p \vdash \langle r::rs, regs\rangle \Rightarrow regs_1} \qquad \text{drop}$$

9) $$\frac{\Gamma, y, p \vdash \langle e::es, regs\rangle \Rightarrow regs_1 \qquad regs_1 = RETURN}{\Gamma, y, p \vdash \langle r::rs, regs\rangle \Downarrow regs_1} \qquad \text{return}$$

$\left.\vphantom{\begin{array}{c}a\\b\end{array}}\right\}$ Jump + Return = Call Return