1 Upgrading VCG Instantiations

theory *VCG-Upgrades* = *VCG-Correctness* + *VCG-Completeness* + *VCG-Invariant*:

1.1 Upgrading Correctness Requirements

1.2 Refining wellformedness checker

theorem *upgrade-wf*:
assumes *wf-refine*: $\forall\ \Pi.\ wlf'\ \Pi \longrightarrow wlf\ \Pi$
assumes *old*: *correctVCG initS effS TT FF And Imp valid provable ipc anF succsF wlf initF wpF*
shows *new*: *correctVCG initS effS TT FF And Imp valid provable ipc anF succsF wlf' initF wpF*
proof −

1.3 Refining successor function

theorem *upgrade-succsF*:
assumes *wf-F*: $\forall\ \Pi.\ wlf\ \Pi \longrightarrow (\forall\ s \in \{s.\ \exists\ s0.\ s0 \in initS\ \Pi \wedge (s0,s) \in (effS\ \Pi)^*\}.\ (valid\ \Pi\ s\ (F\ \Pi\ (fst\ s))))$
assumes *succsF'-def*: $succsF' = (\lambda\ \Pi\ p.\ map\ (\lambda\ (p',B).\ (p',And\ [B,\ F\ \Pi\ p]))\ (succsF\ \Pi\ p))$
assumes *old*: *correctVCG initS effS TT FF And Imp valid provable ipc anF succsF wlf initF wpF*
shows *new*: *correctVCG initS effS TT FF And Imp valid provable ipc anF succsF' wlf initF wpF*

end