―――――――― MODULE $AdaptiveBFT\_Properties$ ――――――――

EXTENDS $AdaptiveBFT$

Figure-E artifact: correctness properties only (safety + liveness).

$I1\_TypeOK \triangleq TypeOK$
$I2\_Consistency \triangleq Consistency$
$I3\_NoForkPerView \triangleq NoForkPerView$
$I4\_PipelineBounded \triangleq PipelineBounded$
$I5\_QCLocked \triangleq QCLocked$
$I6\_QCViewSafety \triangleq QCViewSafety$
$I7\_MempoolSoundness \triangleq MempoolSoundness$
$I8\_ProposalFlowSafety \triangleq ProposalFlowSafety$
$I9\_ViewChangeMessageSafety \triangleq ViewChangeMessageSafety$
$I10\_ChainParentSafety \triangleq ChainParentSafety$
$I11\_PrimaryEligibilitySafety \triangleq PrimaryEligibilitySafety$
$I12\_ReconfigurationSafety \triangleq ReconfigurationSafety$
$I13\_DecoupledPipelineSafety \triangleq DecoupledPipelineSafety$

$SafetyProfile \triangleq$
$\quad \wedge I1\_TypeOK$
$\quad \wedge I2\_Consistency$
$\quad \wedge I3\_NoForkPerView$
$\quad \wedge I4\_PipelineBounded$
$\quad \wedge I5\_QCLocked$
$\quad \wedge I6\_QCViewSafety$
$\quad \wedge I7\_MempoolSoundness$
$\quad \wedge I8\_ProposalFlowSafety$
$\quad \wedge I9\_ViewChangeMessageSafety$
$\quad \wedge I10\_ChainParentSafety$
$\quad \wedge I11\_PrimaryEligibilitySafety$
$\quad \wedge I12\_ReconfigurationSafety$
$\quad \wedge I13\_DecoupledPipelineSafety$

$L1\_EventuallyOneCommit \triangleq EventuallyOneCommit$
$L2\_EventuallyTwoCommits \triangleq EventuallyTwoCommits$
$L3\_InfiniteCollectMinor \triangleq InfiniteCollectMinor$
$L4\_EventuallyViewProgress \triangleq EventuallyViewProgress$

Safety abstraction used in manuscript text.
It aggregates the protocol's core safety requirements.
$Safety \triangleq SafetyProfile$

Liveness abstraction used in manuscript text.
The main reported goal is eventual progress to at least two committed blocks.
$Liveness \triangleq L2\_EventuallyTwoCommits$