Flowchart 1 (x9)

clk → IsNFI

- IsNFI — Yes → CIF
  - CIF — Yes → ✖
  - CIF — No → NFIV[rd] = '1'
- IsNFI — No → OOEM
  - OOEM — Yes → GPBRaux[rd] = NewVaue; Dep[rd] = NFIV
  - OOEM — No → GPBR[rd] = NewVaue

clk → $CIOC_N$

- $CIOC_N$ — No → $IOCF_N$
  - $IOCF_N$ — No → ack[N] = '0'
  - $IOCF_N$ — Yes → ack[N] = '1'; GPBRaux[OOEB[N].rd] = OOEB[N].Q; Dep[31..0][OOEB[N].rd] = '0'; NFIV[OOEB[N].rd] = '0'
- $CIOC_N$ — Yes → OOEM
  - OOEM — Yes → ack[N] = '1'; GPBRaux[rd] = OOEB[N].Q; Dep[rd] = NFIV
  - OOEM — No → ack[N] = '1'; GPBR[rd] = OOEB[N].Q

Index

- **IsNFI** - Is Not a Finished Instruction (the instruction recieved at the WBM is either a FDIV or a Load)
- **NFIV** - Not Finished Instructions Vector (Tells which of the registers from GPBRaux contains a "Not Finished Instruction")
- **OOEM** - Out of Order Execution Mode (NFIV != 0)
- **OOEB** - Out of Order Execution Bus
- **$IOCF_N$** - Instruction On Channel {N} is Finished (rd = OOOEB[N].Ended)
- **CIF** - Current Instruction is Finished (IOCF != 0)
- **$CIOC_N$** - Current Instruction is On Channel N (rd = OOEB[N].rd)
- **Dep'** - Dependencies matrix before updating (by comparing it to the stored version, you can tell which dependencies are being removed/added)

Flowchart 2 (x64)

clk → (decision)

- No → ✖
- Dep'[N] == 0 & Dep[N] != 0
- Yes → GPBR[N] = GPBRaux[N]