CHOOSE: The Fine Print

When reasoning formally about the CHOOSE operator, one discovers that we also need to assume that it satisfies this additional axiom:

$$(\forall\, x \in S \,:\, F(x) \equiv G(x)) \;\Rightarrow\; ((\text{CHOOSE } x \in S \,:\, F(x)) = (\text{CHOOSE } x \in S \,:\, G(x)))$$

The corresponding axiom for unbounded CHOOSE is:

$$(\forall\, x \,:\, F(x) \equiv G(x)) \;\Rightarrow\; ((\text{CHOOSE } x \,:\, F(x)) = (\text{CHOOSE } x \,:\, G(x)))$$

CLOSE