Inference at $*$ 2 2 1 2 1 1
of proof for Lemma p-fun-exp-add-sq:

1. A : Type
2. f : $A \rightarrow (A$ + Top)
3. x : A
4. m : $\mathbb{Z}$
5. $0 < m$
6. $\forall n$:$\mathbb{N}$. ($\uparrow$can-apply($f\hat{}m$ - 1;x)) $\Rightarrow$ (($f\hat{}n$+(m - 1)(x)) $\sim$ ($f\hat{}n$(do-apply($f\hat{}m$ - 1;x))))
7. n : $\mathbb{N}$
8. $\uparrow$can-apply($f\hat{}m$;x)
9. $\neg(n = 0)$
10. $\neg(n$+$m = 0)$
11. $\neg(n = 0)$
12. $\neg(m = 0)$
13. $\uparrow$can-apply($f\hat{}m$ - 1;x)
14. x_1 : A
15. do-apply($f\hat{}m$ - 1;x) = x_1

$\vdash$(f o $f\hat{}n$ (x_1)) $\sim$ (f o $f\hat{}n$ - 1 (outl(f(x_1))))
by (RepUR "p-compose can-apply do-apply " (0)·)
CollapseTHEN ((Subst'
($f\hat{}n$(x_1)) $\sim$ ($f\hat{}n$ - 1(outl(f(x_1)))) (0)·)
CollapseTHEN (((Try (Trivial))·)

CollapseTHEN ((Fold 'do-apply' 0)
CollapseTHEN ((RWO "p-fun-exp-add1-sq<" 0)

CollapseTHENA (Auto·)·)·)·)·)·

1:

$\vdash$ $\uparrow$can-apply(f;x_1)

2:

$\vdash$ ($f\hat{}n$(x_1)) $\sim$ ($f\hat{}$(n - 1)+1(x_1))

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