

Inference at * 1
of proof for Lemma do-apply-mu':

$$\begin{aligned}
& 1. A : \text{Type} \\
& 2. P : A \rightarrow \mathbb{N} \rightarrow \mathbb{B} \\
& 3. d : \forall x:A. \text{Dec}(\exists n:\mathbb{N}. (\uparrow(P(x,n)))) \\
& 4. x : A \\
& \vdash (\uparrow \text{isl}((\text{TERMOF}\{\text{p-mu-decider:ObjectId}, 1:\text{l}, \text{i:l}\}(A, P, d, x)).1))) \\
& \Rightarrow \{(\uparrow(P(x, \text{outl}((\text{TERMOF}\{\text{p-mu-decider:ObjectId}, 1:\text{l}, \text{i:l}\}(A, P, d, x)).1)))) \\
& \quad \& (\forall i:\{0..\text{outl}((\text{TERMOF}\{\text{p-mu-decider:ObjectId}, 1:\text{l}, \text{i:l}\}(A, P, d, x)).1))^{-1}\}. \\
& \quad \quad \neg(\uparrow(P(x, i))))\} \\
& \text{by } (\text{GenConclAtAddr } [1;1;1;1]) \\
& \text{CollapseTHEN } ((\text{Thin } (-1)) \\
& \text{CollapseTHEN } (((\text{D } (-1))\cdot) \\
& \quad \text{CollapseTHEN } (\text{Reduce } 0)\cdot) \\
& \text{CollapseTHEN } (((\text{D } (-2))\cdot) \\
& \text{CollapseTHEN } (\text{Reduce } 0)\cdot) \\
& \quad \text{CollapseTHEN } ((\text{RepUR "p-mu" } (-1))\cdot) \\
& \text{CollapseTHEN } ((\text{MaAuto}\cdot) \\
& \text{CollapseTHEN } ((\\
& \quad \text{Unfold 'guard' } (0)\cdot) \\
& \text{CollapseTHEN } (\text{MaAuto}\cdot)\cdot)\cdot)\cdot)\cdot)\cdot)
\end{aligned}$$