We consider the singular boundary value problem

$$-r(x)y'(x) + q(x)y(x) = f(x), \quad x \in \mathbb{R} \tag{1}$$

$$\lim_{|x|\to\infty} y(x) = 0, \tag{2}$$

where $f \in L_p(\mathbb{R})$, $p \in [1, \infty]$ $(L_\infty(\mathbb{R}) := C(\mathbb{R}))$, r is a continuous positive function on $\mathbb{R}$, $0 \leq q \in L_1^{\text{loc}}(\mathbb{R})$. A solution of this problem is, by definition, any absolutely continuous function y satisfying the limit condition and almost everywhere the differential equation. This problem is called correctly solvable in a given space $L_p(\mathbb{R})$ if for any function $f \in L_p(\mathbb{R})$ it has a unique solution $y \in L_p(\mathbb{R})$ and if the following inequality holds with an absolute constant $c_p \in (0, \infty)$:

$$\|y\|_{L_p(\mathbb{R})} \leq c_p \|f\|_{L_p(\mathbb{R})}, \quad \forall\, f \in L_p(\mathbb{R}). \tag{3}$$

We find a relationship between r, q, and the parameter $p \in [1, \infty]$, which guarantees the correctly solvability of the problem (1) and (2) in $L_p(\mathbb{R})$.