We have \( q_1 \delta_1 = p \delta_0 \) by the corollary to Proposition 5. Therefore, it is sufficient to prove (2) for \( k \geq 2 \). Set \( \sigma = i_k \), and let us consider the surface \( M_{\sigma} \) obtained by the \((\sigma - 1)\)-th blowing up in the process to get \( M \) from \( M_1 \). We may say that \( M_{\sigma} \) is the surface obtained by the blowing down of \( L_{k+1}, L_h, \ldots, L_{k+1} \) successively from \( M \). Let \( \pi_{\sigma} : M \rightarrow M_{\sigma} \) be the contraction mapping. As in the previous sections, let us denote the proper images of \( C, C_k, E_i \) in \( M_{\sigma} \) by \( C(\sigma), C_k(\sigma), E_i(\sigma) \) respectively. By Theorem 3, \( C_{k+1}(\sigma) \) intersects transversely \( E_\sigma(\sigma) \) at the same point \( Q = \pi_{\sigma}(L_{k+1} \cup \cdots \cup L_{h+1}) \) as \( \sigma(\sigma) \). Hence, the functions \( f_k \) and \( g_{k+1} \) on \( M_{\sigma} \) have the same indetermination point \( Q \in E_\sigma(\sigma) \). Let \( \nu_i, \nu_i(\sigma = 0, 1, \ldots, \sigma) \) be the solutions of the following equations:

\[
\sum_{j=0}^{\sigma}(E_i(\sigma) \cdot E_j(\sigma))\nu_j = \left\{ \begin{array}{ll}
0 (i \neq \sigma) \\
d_{k+1}(i = \sigma)
\end{array} \right.
\]

\[
\sum_{j=0}^{\sigma}(E_i(\sigma) \cdot E_j(\sigma))\nu_j = \left\{ \begin{array}{ll}
0 (i \neq \sigma) \\
1 (i = \sigma)
\end{array} \right.
\]

Hence, by Lemma 4, we have \( \nu_i = d_{k+1}\nu_i \) for all \( i = 0, 1, \ldots, \sigma \). In particular,

\( \delta_i = \bar{\delta}_i \cdot d_{k+1}, (i = 0, 1, \ldots, k) \).

Therefore, in order to prove (2), it is sufficient to prove

\( q_k \delta_k \in N_0\bar{\delta}_0 + N_1\bar{\delta}_1 + \cdots + N_{k-1}\bar{\delta}_{k-1} \).

By Theorem 3, \( \overline{C}_k(\sigma) \) intersects \( E_{i_k}(\sigma) \) transversely and does not intersects other components \( E_i(\sigma) (i \neq j_k) \). We have

\[
\bar{\delta}_k = (P_{g_{k+1}}(\sigma) \cdot \overline{C}_k(\sigma))
\]

\[
= (\overline{C}_{k+1}(\sigma) \cdot \overline{C}_k(\sigma))
\]

\[
= (\overline{C}_{k+1}(\sigma) \cdot P_{g_k}(\sigma)).
\]