Based on the results obtained from the present work, further study is suggested as below:

(1) **Ms temperature as weldability index**

Martensitic steel weldments with Ms temperature lower than the Q&T steel base metal can be studied for its effect on hydrogen induced cracking. Because of austenitic transformation occurring at different times, the weld metal with lower Ms temperature can reduce the HIC incidence.

(2) **Studies with very low hydrogen type ferritic electrodes**

Available basic coated ferritic steel electrodes have diffusible hydrogen content of not less than 4ml/100g. Ferritic electrodes with diffusible hydrogen content less than 2ml/100g can be developed by appropriate flux formulation and the same can be used for weldability studies on Q&T steel.

(3) **Detailed studies on post heating**

The effect of post heating depends on both the temperature and the duration of post heating. So detailed theoretical and experimental study can be carried out relating these parameters with the hydrogen available for cracking at different locations of heat affected zones. HIC characteristics can be studied using these post heating parameters.
(4) **Studies with high purity stainless steel electrodes:**

Low ferrite type austenitic stainless steel electrode containing very low impurity level can be studied for its effect on HIC performances of Q&T steel. Certain amount of delta ferrite is introduced in the austenitic steel weldmetal, only to avoid solidification cracking. If the impurity elements like S and P are controlled to very low values, solidification cracking can be avoided without introducing delta ferrite. At the same time, low ferrite content leads to low diffusible hydrogen content and hence to low hydrogen embrittlement. This study may also involve strengthening of the austenitic steel weld metal by alloying with Nb, W and Mo (similar to the E349 electrode), so that weld metal failure at low stress level (similar to the E308-15-modified-2 at 150°C preheating) is avoided.