

7. GLOBAL RESPONSE DATA

As mentioned in the introduction no additional ice force data could be acquired during the period 1990-94 due to the unusual persistence of the series of mild winters and the gradual falling off of the operability of the ice force sensing panel system. In accordance with the project plan, global ice force measurements were to be carried out only in combination with local ice force measurements, in order to concentrate the budget means on such coordinated measurements. Therefore, no efforts have been made to sample global data even during the present winter, although the ice conditions may have offered such opportunities at last.

However, our somewhat revised judgement is that, as regards the global ice force measurements, it is the quality of the data and not the quantity that is important. This is because we have found that the dynamic ice structure interaction can be modelled in a deterministic way. The need of data for probabilistic evaluation is not as strong as was presumed, when the Phase 1 program was outlined.

Therefore, in the work with refinement of the global ice force characterization, we have continued to use the same selection of data as was used in the Phase 1 study. This is a selection of the best data as regards fully developed resonance vibration of the structure, accuracy of acceleration as well as "static" deflection measurements and simultaneous observations of ice conditions. On the basis of these data a generalized ice force function has been derived as expressed in the preceding chapter. The function is anchored in the "static" ice force component which is in turn anchored in the "time-averaged effective ice pressure" as explained in Chapter 9. The latter parameter may, of course, be determined based on a probabilistic approach, since it is related to ice strength and ice thickness, etc.