Issues Relating to Places of Refuge
- A Review of the Maritime Maisie Accident -

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1. Introduction
A 'place of refuge' refers to a place where a ship in need of assistance can take action to enable it to stabilize its condition and reduce the hazards to navigation, and to protect human life and the environment.

On 29 December 2013, a shipping accident involving the chemical tanker Maritime Maisie occurred off the coast of Busan, the Republic of Korea. The position of the accident was within the area of the Northwest Pacific Action Plan (NOWPAP), which was established in 1994 by the People's Republic of China, Japan, the Republic of Korea, and the Russian Federation to protect the marine environment in the northwest Pacific region as one of the UN Regional Seas Programmes. No NOWPAP scheme for mutual assistance or cooperation at places of refuge had been established at the time of the accident, and the Maritime Maisie remained in tow at sea by salvage tugs, with the governments of Japan and the Republic of Korea refusing to accept the tanker to their places of refuge.

Since there is potential for further shipping accidents relating to places of refuge in this region, this study extends exiting research on issues relating to places of refuge based on review of the Maritime Maisie accident by applying event flow networks (sets of boxes with links between the boxes) as the method of the study, and makes suggestions as to measures to deal with shipping accidents that would require the accommodation of ships in need of assistance at places of refuge in the northwest Pacific region.

2. The Event Flow Network
The first step is to describe the actual event flow network of the Maritime Maisie accident with solid lines as 'A' on Figure-1, following which the event flow networks of probable developments are described by referring to past shipping accidents regarding significant pollution (the tanker Erika (France, 1999) and Prestige (Spain, 2002) accidents), a ship-to-ship (STS) transfer operation on the open sea (the tanker Castor accident (Morocco, 2000)) and coordination between relevant coastal states (the container vessel MSC Napoli accident (the English Channel, 2007), and added to the actual one with dotted lines as 'B', 'C' and 'D' respectively on Figure-1.

3. Discussion
1) In the case of the Maritime Maisie accident, the tanker remained towed at sea by salvage tugs between Japan and the Republic of Korea for over 100 days before being accepted at the Ulsan port, the Republic of Korea ('A' on Figure-1). With respect to a prolonged period of time to accept ships in need of assistance to places of refuge similar to the Maritime Maisie accident, there were the shipping accidents involving the tanker Solti Valor (the Persian Gulf, 2012) and the container vessel MSC Flaminia (the Atlantic, 2012) ('E' on Figure-1).

2) There was a possibility that the Maritime Maisie might break in two under poor weather and sea conditions, during refusal or consideration of the request of entry to a place of refuge by the authorities of Japan and the Republic of Korea. It might consequently have sunk to the bottom of the sea, or continued to float and drift on the sea, subsequently causing pollution damage to the coastal areas or the sea ('B' on Figure-1) like the Erika and Prestige accidents.

3) The Maritime Maisie had to remain at sea. If the situation had been expected to deteriorate further under severe weather and sea conditions, the STS transfer operation on the open sea would have had to be carried out as the only measure for the situation ('C' on Figure-1). Although the STS transfer was carried out successfully on the open sea in the case of the Castor accident, the STS transfer should be essentially carried out at sheltered places of refuge to avoid or minimize a risk of failure of the operation.

4) If a prior agreement had been established at the regional level like the MSC Napoli accident, the authorities of Japan and the Republic of Korea would have immediately started the joint assessment of the situation and the coordination on the outset of the accident or the request of entry to a place of refuge on whether the ship should be accommodated at a place of refuge and, if so, where could be an appropriate place for the tanker to be accepted. Moreover, if the Maritime Maisie had been allowed to enter the designated place of refuge after the coordination by the authorities of Japan and the Republic of Korea based on the supposed prior agreement, the STS transfer of the cargo and emergency repairs of the hull could have been carried out under the calm circumstances earlier than the actual without a risk, or with the least risk, of development of breaking up the hull or the ensuring pollution ('D' on Figure-1).

4. Conclusion
1) At the ANC 2013, the study entitled 'Proposal on Places of Refuge for NOWPAP' concluded that '[a] NOWPAP scheme of the mutual assistance or cooperation on places of refuge should be established and incorporated into the NOWPAP Contingency Plan by taking into account precedent regional seas programs around European waters that followed the IMO Guidelines' (2).

2) This study insists again that the NOWPAP should incorporate its own instrument, corresponding to 'F' on Figure-1, on places of refuge among the member states as the prior agreement into the NOWPAP Contingency Plan, to deal promptly with shipping accidents that require accommodation of ships in need of assistance at places of refuge.

References
Figure-1 Event Flow Networks of the Maritime Maisie Accident