

IN THE PROVINCIAL COURT OF BRITISH COLUMBIA

BETWEEN:

REGINA

AND:

KIRBY OFFSHORE MARINE OPERATING LLC

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**AGREED STATEMENT OF FACTS ON SENTENCE**

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Pursuant to subsection 724(1) of the *Criminal Code*, the defendant and the Crown agree to the following facts on sentence:

**The “*Nathan E. Stewart*” and the “*DBL-55*”**

1. The vessel “*Nathan E. Stewart*” was a U.S.A. flagged tug boat constructed in 2001 with a gross tonnage of 302, a length of 29 m and an official number of 1120997 (the NES). The registered owner of the NES was Kirby Offshore Marine Operating LLC (Kirby Operations).

2. The vessel “*DBL-55*” is a U.S.A flagged, non self-propelled tank barge constructed in 2010, with a gross tonnage of 4276, a length of 87.78 m, and an official number of 1229343 (the Barge DBL 55). The registered owner of the Barge DBL 55 is Kirby Offshore Marine Pacific LLC.

3. Kirby Offshore Marine Operating LLC and Kirby Offshore Marine Pacific LLC are subsidiaries of Kirby Corporation, which operates one of the largest inland and offshore tank barge fleets in the United States.

### **The Voyage**

4. At all material times, the NES transited from petroleum facilities in the State of Washington, U.S.A. or the Port of Vancouver, British Columbia, with the Barge DBL 55 (or another tank barge) loaded with refined petroleum products to be delivered to various ports in the State of Alaska, U.S.A., and would return southbound.

5. When used together, the NES and the Barge DBL 55 were connected through a JAK® ATB Coupling System (the “**Coupling System**”). The Coupling System required the NES to be positioned at the rear of the Barge DBL 55 during the course of a voyage.

6. On October 4, 2016, the NES and Barge DBL 55 departed the Port of Vancouver *en route* to the Ports of Skagway and Ketchikan in Alaska. At the time, the Barge DBL 55 was loaded with approximately 1,400,000 gallons of jet fuel and 700,000 gallons of unleaded gasoline. The NES was carrying marine diesel fuel (diesel) and lubricants for boat operations. The NES was manned by seven crew, including Henry Hendrix (2nd mate) and Sean Connor (Master). The Barge DBL 55 was not required to be manned while in transit, but two members of the NES crew were tankerman, who were responsible for transferring cargo to and from the Barge DBL 55 at ports of loading and discharge.

7. On October 9, 2016, while transiting northbound through the Inside Passage, the NES and Barge DBL 55 stopped at the Petro Marine Services facility in Skagway to discharge approximately 755,000 gallons of jet fuel. Upon the completion of discharge operations, the NES

and Barge DBL 55 departed from Skagway and continued their voyage to the Petro Marine Services facility in Ketchikan, where they arrived on October 11, 2016.

8. At the Petro Marine Services facility in Ketchikan, the NES and Barge DBL 55 crew discharged ashore the remaining cargo of jet fuel and gasoline from the Barge DBL 55. Upon the completion of discharge operations, the NES and Barge DBL 55 departed Ketchikan and began their southbound transit toward the Port of Vancouver.

### **The Grounding Incident**

9. On October 12, 2016, at about 11 p.m. Mr. Hendrix relieved Mr. Connor at the helm of the NES. Hendrix was working on a 6 hour on/6 hour off schedule. Kirby Operations had not submitted Mr. Hendrix's name and certificate of competency for inclusion in its pilotage waiver in advance of the voyage.

10. On October 13, 2016, while transiting in the Seaforth Channel, Mr. Hendrix fell asleep at the helm of the NES and, between 1:00 a.m. and 1:10 a.m., the NES ran aground at Edge Reef (the "**Incident**"). Edge Reef is on the north side of Athlone Island, in the Seaforth Channel, British Columbia. Mr. Hendrix was awoken by the Incident – he was not awoken by any alarms prior to the Incident.

11. At about 1:20 a.m. Kirby Operations contacted the Canadian Coast Guard (CCG) and advised them of the Incident. At about 3:08 a.m. Kirby Operations reported a potential marine spill. At about 4:57 a.m., Kirby Operations made a subsequent report that the diesel fuelling the NES had spilled. At about 5:30 a.m. the crew attempted to surround the vessel with a boom but it broke apart in the waves. At about 5:34 a.m. Kirby Operations reported 200 gallons of diesel spilled from the NES and that three tanks were breached (1 port, 1 centre and 1 starboard). At that time, the crew was pumping diesel onto the Barge DBL 55 from the NES in an effort to prevent

further discharge into the marine environment. At about 9:26 a.m. the NES sunk and the crew evacuated.

12. In the daylight on October 13, 2016, a sheen was visible extending from the NES. As a result of the Incident, the NES' tanks were damaged and approximately 107,552 litres (28,412 gallons) of diesel fuel and 2,240 litres (591 gallons) of lubricants were released from the NES into the Seaforth Channel. The Incident did not damage the Barge DBL 55's cargo tanks or result in the release of any substance from the Barge DBL 55 into the Seaforth Channel, or otherwise.

13. The following photograph was taken on October 17, 2016, and shows the NES and the sheen extending from it.



### **Seaforth Channel**

14. Seaforth Channel is within DFO Fisheries Management Area 7-12. The waters are frequented by salmon, halibut and other species which contribute to Aboriginal, commercial and recreational fisheries. The Seaforth Channel also contains the habitat of Committee on the Status of Endangered Wildlife in Canada (COSEWIC) listed fish, molluscs and mammals, such as sea otters, northern abalone, killer whales, humpback whales, harbour porpoises, and stellar sea lions and the habitat of COSEWIC listed migratory birds such as marbled murrelets, great blue herons, and western grebe.

15. The spill resulted in oiled shores. As a result of the Incident, DFO closed the commercial sea cucumber and urchin fisheries. One oiled cormorant and one oiled rhinoceros auklet were observed following the Incident. No dead fish or birds were conclusively proven as being causally killed by the spill.

### **Prior Record**

16. The defendant has no prior record.

### **Revenue**

17. The revenues for Kirby Operations in 2017 was \$375,000,000 USD. The revenues for Kirby Operations in 2018 was \$338,000,000 USD.

### **Key Response Activities and Decision Dates: Summary**

18. Kirby Operations response and investigative activities commenced immediately after the Incident and remain ongoing. Key dates respecting activities and decisions associated with the response and/or investigative efforts following the Incident are summarized as follows (and are described in more detail below).

<b>Activity</b>	<b>Date(s)</b>
The Incident	October 13, 2016
Initial Boom Deployment	October 13, 2016
Initial Collection of spilled product with skimmers	October 14, 2016
Incident Command Established	October 14, 2016
Wildlife Monitoring and Carcass Searches	Daily October 14 - November 17, 2016; Twice weekly November 18 – December 18, 2016
Ephemeral Sampling of Water, Sediment, Aquatic Animal Tissue, and Vegetation	October 14 – December 17, 2016
Shoreline Assessment Surveys (i.e., SCAT)	October 15 – November 19, 2016
Lightering of Materials from NES	October 17–23, 2016
BCMOE Request to Prepare an EIA	November 1, 2016
Abalone Relocation	October 29 – November 7, 2016
NES Removal	November 14, 2016
Unified Command Issued its Final Situation Report	November 21, 2016
Follow-up Sampling of Aquatic Animal Tissue and Vegetation	February 27 – March 1, 2017
EIA Plan Approved by BCMOE	April 5, 2017
Herring, Roe, and Kelp Sampling	April 6 - 10, 2017
Abalone Monitoring	December 2016 – present
Data review and preparation of EIA report	May 2017 – present

### **Initial Response Activities**

19. Immediately following the Incident, Kirby Operations contacted the CCG, and activated initial response operations based on Regional and Area Response Plans, including the initiation of the Incident Command System (ICS). Members of the Heiltsuk Nation (HN), the CCG, joined by the BC Ministry of Environment and Climate Change Strategy (BC MOE), Kirby Operations, and Western Canada Marine Response Corporation (WCMRC) attended the scene and implemented measures aimed at controlling the release, and minimizing environmental damage.

20. Various stakeholders formed the Unified Command (UC) to coordinate spill response efforts. Participants in the UC included Kirby Operations, the HN, DFO, CCG and the BC MOE. Particular studies and response planning was done largely at the Environmental Unit (EU), a body created by UC with participants from the Kirby Operations, HN and numerous government agencies, chaired by the BC MOE.

21. The major actions taken within the first 24 hours focused on site control, activation of personnel to the remote site, and initial spill containment. More specifically, on October 13, 2016:

- WCMRC and other first responders placed containment and sorbent boom around the NES and at two locations in Gale Passage;
- the empty Barge DBL 55, which separated from the NES in the early evening, was recovered and anchored at Dundavin Inlet; and
- Kirby Operations activated key contractors including Resolve Salvage and Fire (Resolve), Focus Wildlife, Polaris Applied Sciences (Polaris), Cardno environmental consultants (Cardno), and The Response Group (TRG).

22. By October 14, 2016, Kirby Operations initiated expanded response activities including source control, spill containment, environmental monitoring and sampling, and planning for longer term actions. Key activities are listed below:

- UC opened the Incident Command Post (ICP) at the HN Band Office in Bella Bella;
- two overflights were conducted in the morning to evaluate the extent of the release and guide cleanup operations;

- WCMRC continued positioning and maintenance on primary containment and sorbent boom around the tugboat and within Gale Passage. Skimmers were on-scene and attempted recovery of released materials. Additional WCMRC equipment (skimmer and booms) and staff were also mobilized;
- HN members and Pacificus, BC MOE, and Cardno (on behalf of Kirby Operations) worked collaboratively to identify areas of potential concern for exposure and sensitive resources. This was the basis for the initial Ephemeral Sampling Plan (ESP). Under this plan, the first samples were collected jointly on October 14, 2016;
- Focus Wildlife initiated wildlife surveys on October 14, 2016. A spill information phone line was activated for the public and responders to report oiled/injured wildlife;
- shorelines were prioritized for Shoreline Cleanup and Assessment Technique (SCAT) surveys using a combination of oil observations, trajectory predictions, important habitats identification, and operational priorities for cleanup. On behalf of Kirby Operations, Polaris led SCAT efforts and began conducting SCAT surveys to characterize oiling on the shorelines on October 15, 2016 with support from HN and BC MOE;
- on behalf of Kirby Operations, Resolve divers conducted surveys of the damage to the hull and plugged all tank vents, some of which were visibly releasing product. Resolve led the development of a Lightering Plan to remove oil remaining in tanks on the NES and initiated a Salvage Plan to remove the NES from the water;



- although the Seaforth Channel area (i.e., part of DFO Management Area 7) was already closed to shellfish harvesting due to an existing biotoxin closure, the DFO announced a Chemical Contamination Emergency Closure for Bivalve Shellfish in portions of DFO Management Area 7 due to the Incident;
- Transport Canada (TC) conducted overflights and documentation of observed sheen;
- CCG maintained a safe working perimeter around the NES by re-directing non-response vessels traversing in the area; and
- containment and cleanup operations, reconnaissance, wildlife and shoreline surveys, and source, air, and environmental sampling continued through, and in some cases after, the removal of the NES from the water on November 14, 2016.

### **Initial Site Investigation**

23. Following the Incident, on behalf of Kirby Operations, Cardno implemented site investigation activities, which included surveys and sampling to help direct cleanup operations and assess impacts to environmental resources. The initial shoreline assessment included surveys on roughly 300 km of shoreline in proximity to site of the Incident.

24. Between October 14, 2016 and November 17, 2016 daily wildlife searches were conducted, followed by twice-weekly (or more) surveys through December 18, 2016.

25. Between October 14, 2016 and April 20, 2017 a total of 2,339 samples of water, sediment, animal tissue, and vegetation were collected. Sampling was initially conducted in the areas where sheen was observed during aerial overflights and was expanded to include locations up to approximately 60 km from the site of the Incident.

### **Kirby Operations Funding Provided for the Response**

26. Following the Incident, Kirby Operations made arrangements to fund costs incurred by response participants, including provincial agencies, federal agencies, the HN and its members, various contractors, and other organizations (e.g. the Oil Spill Response Organizations);-some of the payments made by Kirby are set out below:

- Kirby Operations paid HN \$200,000 CAD following the Incident for anticipated losses associated with clam and fish harvesting;
- Kirby Operations paid HN over \$3,400,000.00 CAD for Incident response costs pursuant to a funding agreement with the HN dated October 29, 2016 (the Funding Agreement);
- Kirby Operations funded several training classes to HN members on shoreline cleanup and assessment (SCAT) and also funded HN to advise on and implement the ESP and the SCAT plan;
- Kirby Operations funded an archaeology study performed by HN archaeologists to ensure that response efforts did not impact critical historic areas;
- Kirby Operations funded and collaborated with HN's consultant Pacificus (and HN community members) to accommodate a sensitive abalone site during the removal of the NES.
- Kirby Operations paid her Majesty the Queen in the Right of the Province of British Columbia, as represented by the BC MOE, \$409,565.62 CAD for Incident response costs;

- Kirby Operations paid her Majesty the Queen in the Right of Canada, as represented by the CCG, \$1,940,572.00 for Incident response costs; and
- Kirby paid all response related costs of the other Oil Spill Response Organizations (e.g. WCMRC and Resolve).

### **Kirby Operations Co-operation with Authorities**

27. Kirby Operations engaged with provincial and federal departments and the HN following the Incident.

28. Much of the Kirby Operations cooperation was conducted through the UC and the EU. These bodies relied on advice provided by their individual members and hired experts to develop and support various immediate response efforts in the weeks following the Incident.

### **Kirby Operations' Development of the Environmental Impact Assessment**

29. Following the Incident, Kirby Operations and its consultants advised the UC and the EU that the above-noted ESP and SCAT work would form the first phase of post-Incident investigations, to be followed by a post-response environmental impact assessment (EIA). Members of the UC and EU endorsed this approach and discussions about scoping the EIA began in early November 2016.

30. After Kirby Operations' consultants prepared a first draft of the EIA Plan, the BC MOE facilitated four rounds of review and consultations with EU participants. Kirby Operations incorporated the majority of stakeholder comments and suggestions into each of the four draft EIA Plans prepared during this review and consultation process. After this review and consultation process, the BC MOE approved the EIA Plan on April 5, 2017.

### **Kirby Operations Actions after EIA Plan Approval**

31. Following the EIA Plan approval in April 2017, Kirby Operations took the following actions in response to further stakeholder comments and suggestions:

- in April 2017, Kirby Operations funded and conducted additional voluntary herring roe, kelp and herring sampling and sensory testing;
- in June 2017, Kirby Operations agreed to cover a non-exhaustive list of species in the EIA; and
- Kirby Operations environmental consultants have been conducting risk assessments in furtherance of the EIA Plan.

### **Kirby Operations' Policy Changes**

32. Since the Incident, Kirby Operations has undertaken a number of measures to reduce the risk of a similar occurrence, including the following:

- Kirby Operations has installed a Bridge Navigational Watch Alarm System (a BNWAS) on all Kirby Operations vessels. The use of a BNWAS assists a navigator by sounding an audible alarm when the navigator fails to acknowledge a visual warning at a preset period of time.
- Kirby Operations has revised its *Common Procedures Manual* (CPM).07.240 (Electronic Charting System) to require the activation and use of electronic charting system software (ECS) at all times (while underway and at anchor). ECS provides for various audible and visual alerts that can be configured to support situational awareness during navigation. Notably, the revised version of CPM.07.240 specifically states that boundary crossings and the Cross Track Error must be

enabled at all times and that the course update at waypoints must be enabled when navigating offshore.

- Kirby Operations has revised its policies regarding the promotion of crew members. Promotion to a Deck Watch Officer position now requires:
  - (i) attendance at a five-day simulator training program in Houston, Texas which is designed to be extremely challenging with respect to navigation, and navigational decision-making;
  - (ii) a simulator evaluation with passing proficiency; and
  - (iii) verification of procedural compliance.
- Kirby Operations has revised CPM.07.232 (Lookout Policy) to require that, in addition to the Officer on Watch (OOW), a lookout be posted in the wheelhouse at all times when a vessel is underway in pilotage waters.
- Kirby Operations has revised CPM.07.230 (Bridge Resource Management) to require the OOW to recognize when complacency and fatigue may lead to a loss of situational awareness and to follow bridge resource management practices to manage the situation. PLAC 07.230.02 confirms Bridge Team Organization and manning levels, including in pilotage waters.
- Kirby Operations has revised its Watch Change Conference Checklist to now require a verification of watch readiness.

- Kirby Operations has re-aligned its vessel operations to mid-level management to improve oversight and has hired three additional employees who are specifically dedicated to providing additional oversight to vessel crewing issues.
- Kirby Operations has implemented a "Wheelhouse Assessment Program". The purpose of this program is to provide peer-led oversight of the master and crew of each towing vessel. A senior, qualified master rides along on each vessel for complete voyages, evaluating navigation procedures, change of watch routines, bridge layout ergonomics and conducting overall internal audit of the vessel and crew performance. In addition to the Wheelhouse Assessment Program, Port Captains for each Kirby Operations operational region now conduct random "ride-alongs" evaluating master and crew.
- Kirby Operations has improved its mariner licensing and credential verification process, as follows:
  - (i) presently, a crewing manager is tasked with overseeing compliance with all applicable licensing and credential requirements;
  - (ii) new software tracks crew compliance with licensing and credential requirements and notifies the crew manager when a licence or similar requirement is set to expire;
  - (iii) weekly reports in respect of licensing and credential compliance are now generated by the new software and provided to Kirby Operations' vessel operations management team;

- Kirby Operations launched a fatigue awareness and recognition campaign in 2017 pursuant to the Watch Ready Program.
- Kirby Operations is taking steps to improve all company policies in connection with the Pacific Pilotage Authority pilotage waiver program. Specifically, Kirby Operations will be utilizing ABS Nautical System that will track compliance with Canadian pilotage waiver requirements.

Dated this      day of                      , 2019, in Vancouver British Columbia.

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