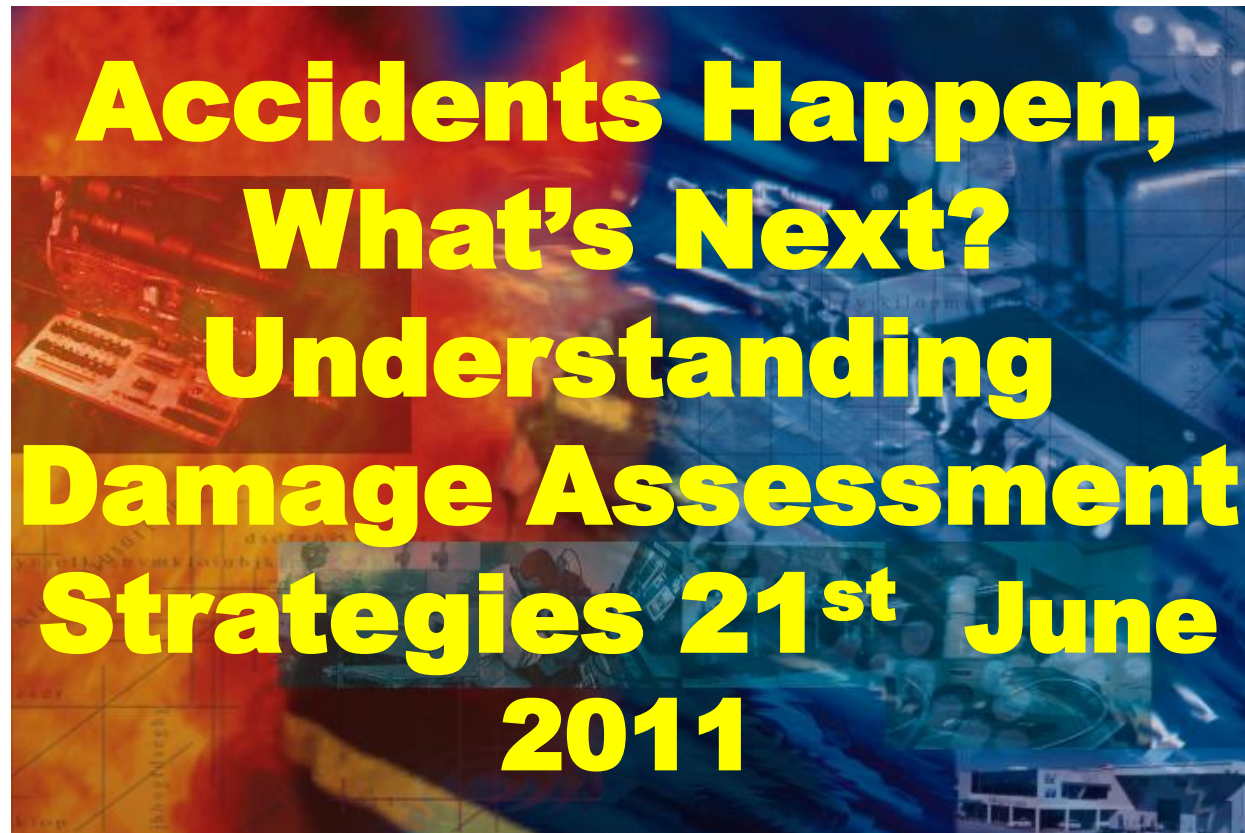
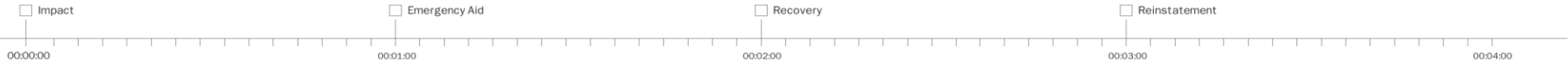


GIA Presentation

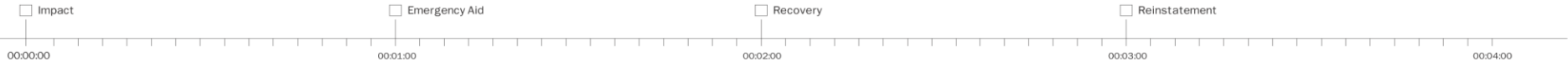




Presentation contents

- Introduction To Damage Assessment
- Common Type of Incidents Encountered in the Marine Industry
- Importance of a professional approach to Damage Assessment
- Role of a Restoration Service Provider in Damage Assessment
- Case Study

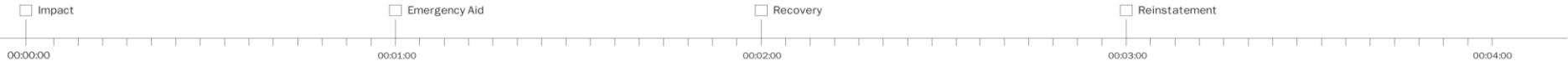




Introduction to Damage Assessment

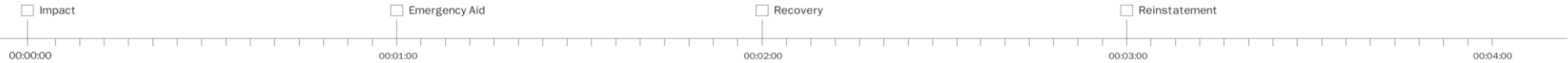
- Over the last number years, the Marine Industry has come a long way in improving its operations. Most of the efforts are concentrated in preventing losses by
 1. Improving risk assessments techniques
 2. Better safety education and improvement in safety procedures
 3. Technological advancements which assist humans to make better decisions
 4. Modern Ship design which reduce the potential for cargo damage.
 5. Modern ground transportation handling which not only it makes it more efficient but also much safer
- No matter how much we try to minimize the risk of accident, accidents still occur





Facts After an incident

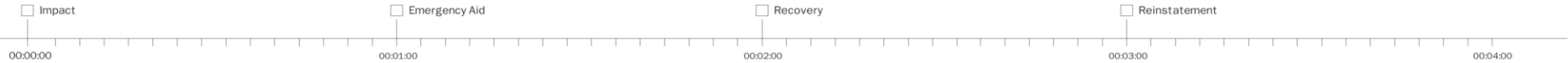
- Not all equipment or goods involved in any kind of incident are always total loss
- The damage to equipment doesn't stop once the incident is over
- In many cases further losses are incurred as a result of a rush or improper assessment
- Rush to try to mitigate the damage without a proper planning.
- In many cases a given claim can be between 20% to 50% higher as a result of improper assessment (based on activities in which BELFOR got involved)



Common Type of Damage Encountered in the Marine Industry

- Water Ingress

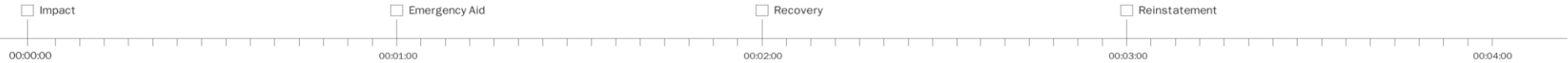




Common Type of Damage Encountered in the Marine Industry

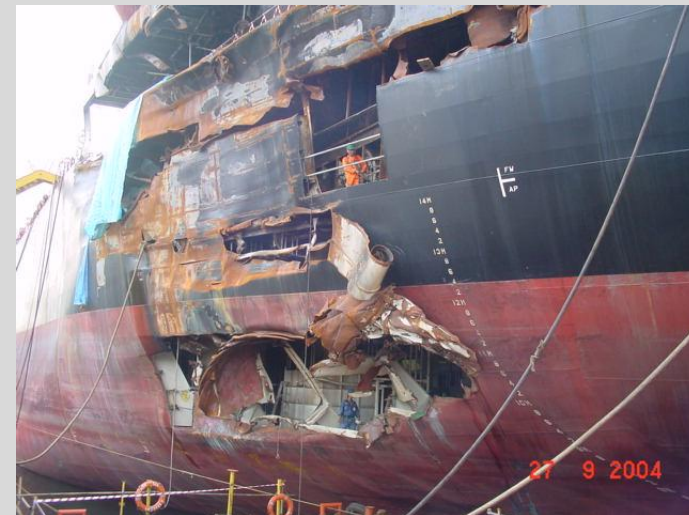
- Impact Damage

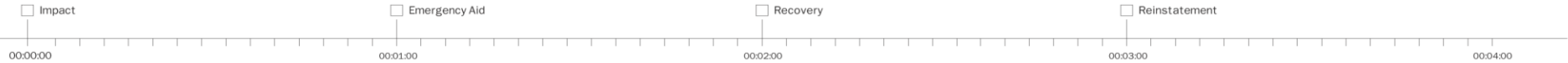




Common Type of Damage Encountered in the Marine Industry

- Fire / Collision Damage



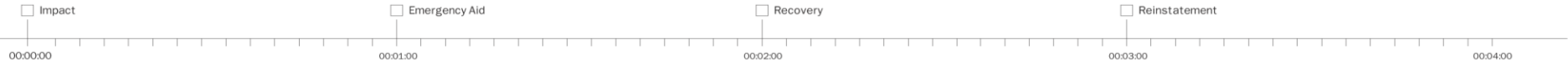


Common Type of Damage Encountered in the Marine Industry

Environmental Damage

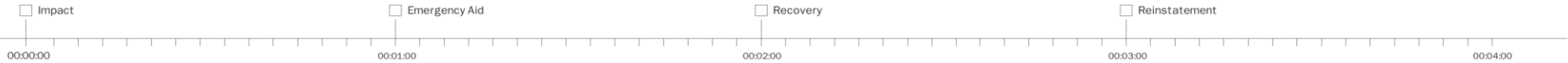
- Condensation
- Corrosion
- Mould





Importance Of a Right Approach to Damage Assessment

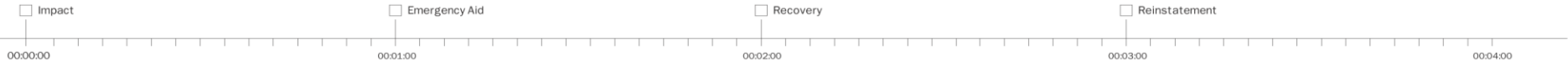




Vendor Service Engineer Standard Approach to Fault Finding

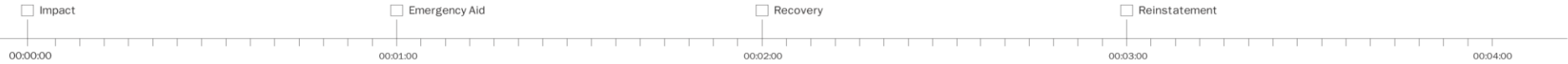
- Equipment Vendor or Service Engineer Representative is trained to perform fault finding tasks, identify faults and replace affected components, align and calibrate the equipment.
- Most of the time it require the affected equipment to be energized in order to run diagnostic tools which would enable to pin point the fault.





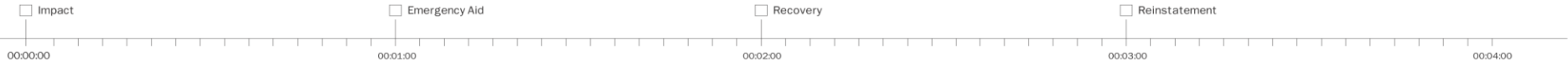
Incident Related Assessment Approach

- Identify the type and extent of contamination
- Identify the extent of Physical damage in the event of impact cases
- Ensure all contaminants are removed
- Ensure the affected equipment is electrically safe for functional testing.



Role of a Restoration Service Provider in Damage Assessment

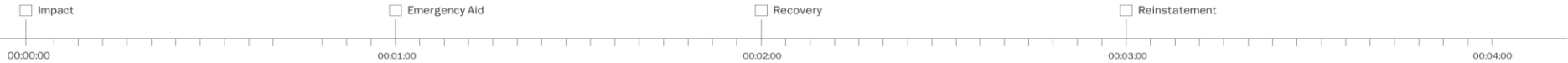




Restoration Service Provider

- Restoration service provider bring to the case:
 1. Expertise in damage assessment.
 2. Tools to determine extent of damage.
 3. Recommend mitigation measures
 4. Advise on restoration / recovery options



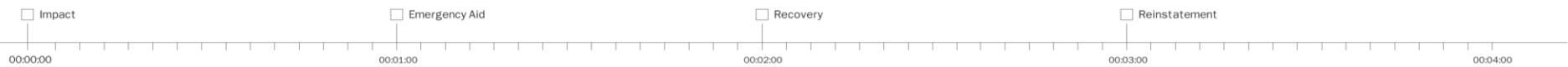


Expertise In Damage Assessment

How do we Develop the Expertise in Damage Assessment

- Technical knowledge
- Involved in restoration projects
- Internal training program provided in our R&D facilities in Germany
- On the job training, assigned to a Senior Technical Adviser.
- Develop the necessary expertise to carry out Damage Assessment can take between 18 to 24 months.



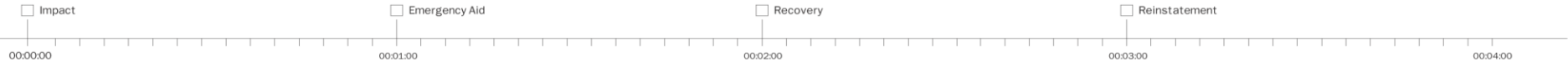


Tools to Carry Out Damage Assessment

- Chemical tests

1. pH
2. Chloride
3. Cyanide Test
4. Sulfate Test
5. Wipe Samples for Ion-Chromatograph



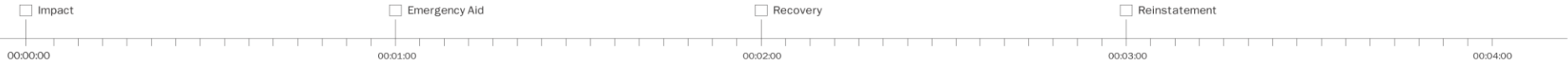


Instruments to Carry Out Damage Assessment

- Equipment

1. Infrared Thermograph
2. Insulation Resistance Tester
3. Environmental Testing
4. Digital Level
5. Multimeter





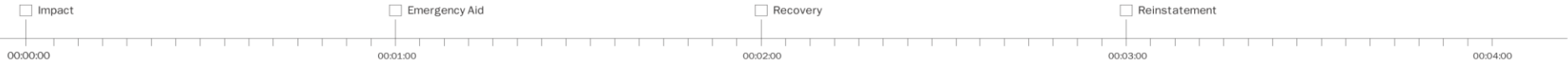
Damage Assessment in the Marine Industry

- Damage to the Carrier (Vessel)
- Damage to the Cargo

For the purpose of this seminar, I will focus on two distinctive kind of goods

- A. Boxed Equipment include mass produced equipment (consumer electronics, white goods, etc) usually are packaged and ready for display
- B. High Value Commercial / Industrial Individual Items.

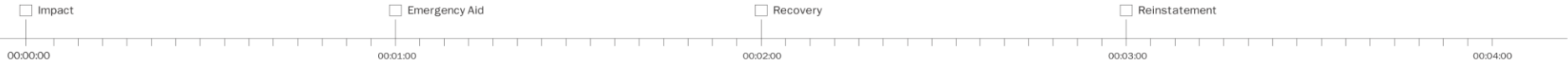




Damage to the Vessel

- Structural damage is usually assessed and repaired by shipyard personnel.
- Contamination issues such as after Engine Room Fires, chemical spillages, sea water ingress can be carried out by both shipyard personnel and restoration companies.
- Normal environmental contamination can be assessed by restoration companies.

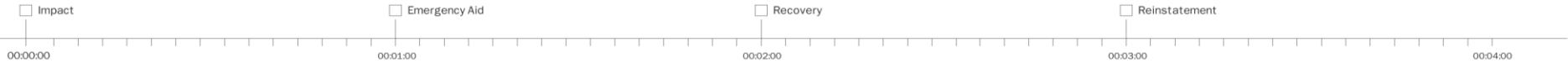




Damage to Cargo (Boxed Equipment)

- Upon an incident which involve mass produced equipment, the role of the restoration service provider is:
 1. Segregate damage equipment from undamaged
 2. Recommend proper mitigation measures for both affected and unaffected
 3. Recommend on testing procedures for equipment assessed as unaffected.
 4. Recommend options for equipment assessed as affected.

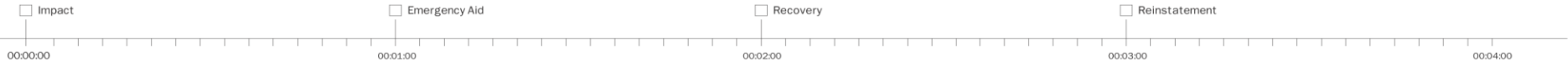




Case Study 1 Impact / Water Damage to LCD Display

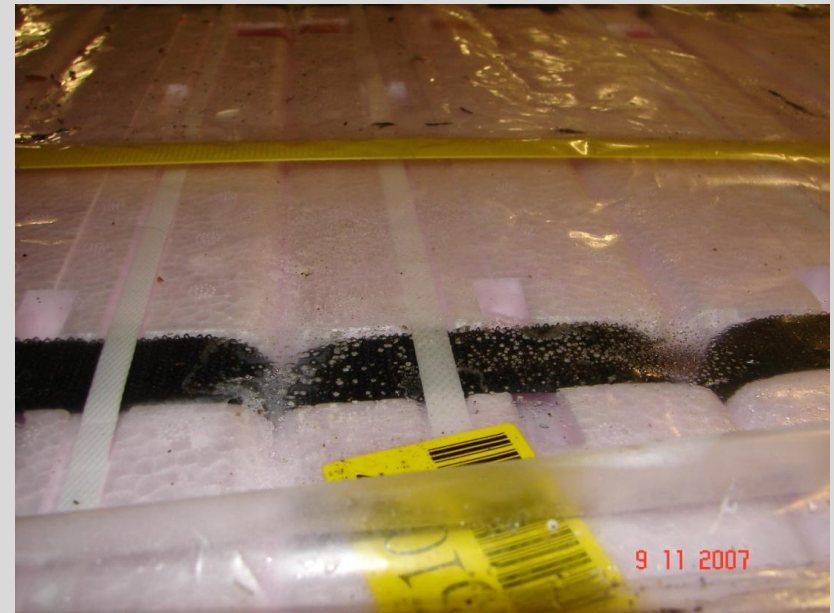
- Involved a shipment from Taichung to Shanghai
 - Ship went through a storm
 - Two containers loaded with twenty four pallets containing seven hundred and twenty 19" LCD displays in each container, valued at over USD\$ 430,000
 - The Insured upon inspected the condition of both the containers claimed total loss for all the contents
 - BELFOR was engaged to assist with the damage assessment.

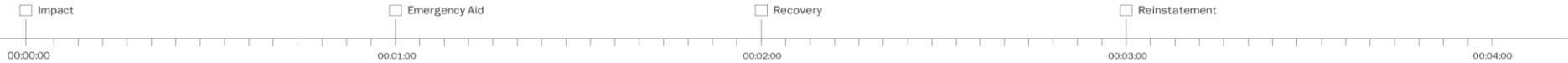




Case Study 1

- Initial damage assessment was carried out together with manufacturer representative and comprises the following steps:
 1. Visual Inspection of the external packaging to identify possible impact / water damage.
 2. Segregation of items which displayed evidence of impact / water damage. About 98 LCD displays were either affected by water or damaged as a result of the impact.
 3. Perform chemical and functional tests on a sample of items identified as unaffected.

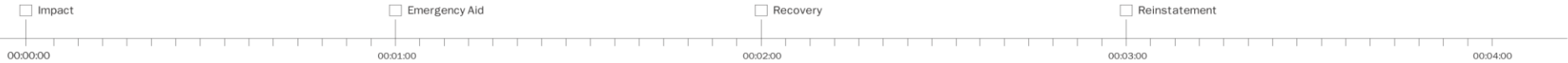




Case Study 1 Results

- Of the initial 1440 LCD displays located in both containers, it was established that 98 had been affected by either impact or water contact. A further 144 LCD displays which were assessed as not affected were functional tested and aged in an environmental chamber.
- The remaining LCD displays were assessed as not affected and accepted by the end user.
- The original material loss was estimated to be at USD\$ 432,000.
- After damage assessment and testing the material loss was USD\$ 72,600.

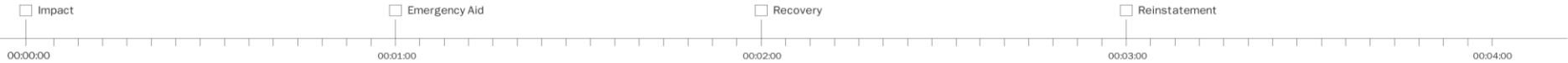




Damage to Cargo (High Value Commercial / Industrial Individual Items)

- Upon an incident involving high value commercial / industrial individual items such as machinery, etc, the role of the restoration service provider is:
 1. Inspect the affected item equipment to establish whether or not the equipment is recoverable .
 2. Recommend mitigation measures.
 3. Discuss with the original equipment manufacturer or representative regarding testing options.
 4. Recommend measures to ensure safe testing.
 5. Assist the OEM with testing and damage assessment.

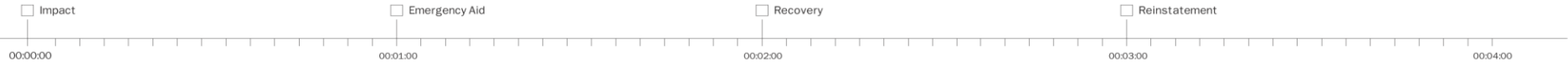




Case Study 2 Impact Damage to X-Ray Vehicle Inspection System

- Involved a shipment from China to Calcutta on its way to Nepal
 - During the voyage from China to India, the vessel stopped at Port Klang (Malaysia)
 - The X-Ray vehicle Inspection System (V.I.S.) was off-loaded from the Vessel
 - During the off-load operation, the V.I.S. fell to the ground on it's right side.

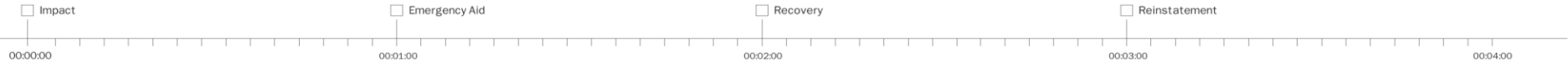




Case Study 2

- Initial damage assessment was carried out by the equipment representative who advised the V.I.S. would be considered a total loss.
- BELFOR was requested to inspect the V.I.S. and provide with recommendations.
- Initial assessment indicated that although the damage was severe the V.I.S. should not be considered as a total loss.
- Due to the complexity of the equipment BELFOR recommended to relocate the V.I.S. to the OEM for a more comprehensive assessment and testing.





Case Study 2

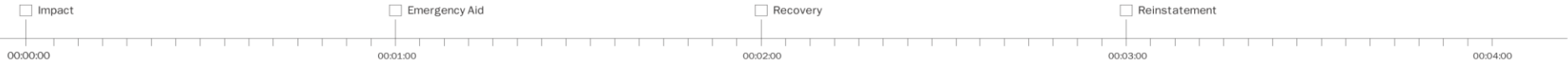
- Upon arrival to the OEM facilities, BELFOR and manufacturer personnel dismantled the V.I.S. and tested each individual component.

The testing lasted for two weeks.

Upon completion, a list of damaged parts was prepared together with a repair quotation.

The V.I.S. was fully repaired and delivered to Nepal.

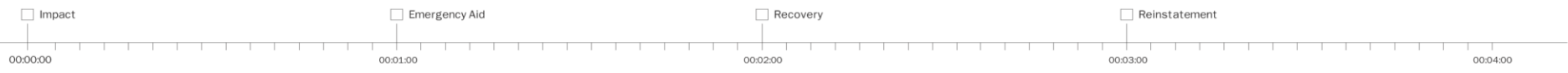




Case Study 2 Results

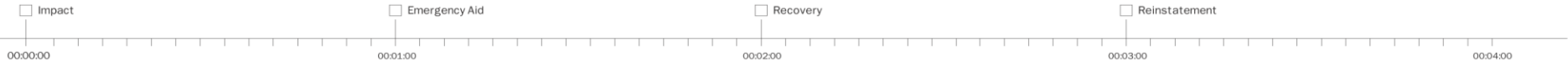
- A total of 107 different components were inspected and tested.
- The Value of the V.I.S was estimated at USD\$ 1,585,572
- After the damage assessment and testing, the material loss was estimated at USD\$ 414,250.





Conclusion

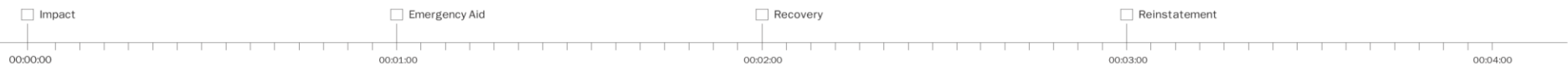




Conclusion

- Damage Assessment requires time and resources.
- Damage Assessment involves communication between the OEM, the Restoration Service Provided and End User.
- A clear assessment plan should be lined up and agreed by all parties involved prior commencing damage assessment activities
- The approach to damage assessment will depend on the type of incident (water, smoke, Fire, impact, etc) and the circumstances surrounded the incident. Each case is unique and the approach should be tailored to the particular incident.
- It requires full cooperation of all parties.





Thank you for your participation

