Incorporating The Salvage Association

JH143 RISK ASSESSMENT SURVEYS

SHIPYARDS & PROJECTS

Brian Docherty
BMT Marine & Offshore Surveys Ltd
Mediterranean Region,
Piraeus Greece
JH143 SHIPYARD RISK ASSESSMENT

EVOLUTION & METHODOLOGY

FROM CONDITION SURVEY TO RISK MANAGEMENT

THE WAY FORWARD
But First! WHY ARE WE DOING THIS?
We Do These Surveys Because of Shipyard Casualties

In a 14month period **US$700million** of claims passed to Underwriters

**All** from fires and other accidents during outfit of newbuildings and conversion projects
DIAMOND PRINCESS $350million
When the fire had finished it looked like this
What had to be repaired looked like this
Costa Fortuna

$75million
Different Shipyards       Same Root Cause

“Un-programmed” hotwork outside of the Project plan

Documented procedures not implemented at the worksite

Production & Safety not integrated

Realistic Response not planned for
Firefighting damage  60% of Loss
Pride of America  €180million
Different Shipyards    Same Root Cause

Both vessels all Fire Zones & Decks completely OPEN

Production & Safety not integrated

Realistic Response not planned for
ALL With CONSEQUENCES

Consequences.
Dock side Crane Knocked Over
Shipyard Bankrupt
3500 Workers Without Pay
CALA PALMA  €9m Project / €58m Damage

Consequences.

Toxic Smoke

87,000 Citizens to Evacuate
Everybody Thought They Were SAFE

But

RISK

Had Not Been Effectively DEALT With
The Consequence of those Shipyard Casualties

- Builders’ Risk Liability
- Builders’ Refund Guarantee
- Shiprepairers’ Liability
- ALOP (Advance Loss of Profit)
- Business Disruption
- Cruise Losses Indemnity
- Third Party Liability

**JH143 Shipyard Risk Assessment Warranty**
What is a JH143 Warranty anyway?

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PRIVATE AND CONFIDENTIAL
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JH 2003/143
November 27th 2003

SHIPYARD RISK ASSESSMENT

Members are advised that the Joint Hull Construction Risks Sub-Committee has produced a shipyard risk assessment form which is available for underwriters’ immediate use. Choice of a suitably qualified surveyor is entirely negotiable.

Neil Roberts
Secretary
JH143 Warranty Wording.

“It is a condition **PRECEDENT** to liability…..”

- Geographical and Environmental Risks
- General Site Condition Processes and Procedures
- Quality Assurance/Quality Control of the production process
- General Housekeeping
- Management of Subcontractor
- Permit to Work Systems
- Emergency Response Plan
- Fire Fighting Capability
- Shipyard Equipment
- Atmospheric Monitoring & Control of Industrial Gases
- Launching & Sea Trials
- Site Safety
- Casualty History
### Perceived Risks / Proposed Solutions

**AKER BRATTVÆG**  
**JH143 SHIPYARD RISK ASSESSMENT SURVEY**  
**20 JUNE 2005**

<table>
<thead>
<tr>
<th>PERCEIVED RISK</th>
<th>PROPOSED SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Lack of temporary portable Fire &amp; Water detection system during the outfitting</td>
<td></td>
</tr>
<tr>
<td>2 Multiple storage locations for flammable liquids</td>
<td></td>
</tr>
<tr>
<td>3 Technical gas hoses assembled with screw couplings</td>
<td></td>
</tr>
<tr>
<td>4 Technical gas manifolds without isolating valves</td>
<td></td>
</tr>
<tr>
<td>5 Technical gas manifolds not painted in a high visibility color</td>
<td></td>
</tr>
<tr>
<td>6 Roads, access ways and storage locations not separated by painted lines</td>
<td></td>
</tr>
<tr>
<td>7 Fire and safety patrol capability insufficient</td>
<td></td>
</tr>
<tr>
<td>8 Emergency response capability not sufficient</td>
<td></td>
</tr>
<tr>
<td>9 Gas supply on board the vessel not adequate</td>
<td></td>
</tr>
<tr>
<td>10 Access to the vessel not adequate</td>
<td></td>
</tr>
<tr>
<td>11 Gas hoses lying inside the vessel unmanned</td>
<td></td>
</tr>
<tr>
<td>12 Smoking policy ignored</td>
<td></td>
</tr>
<tr>
<td>13 Storage room surrounded by painting storage, Oxygen and Acetylene, oil consumables</td>
<td></td>
</tr>
<tr>
<td>14 High fire load on vessel in outfit due to amount of combustible materials stored on board</td>
<td></td>
</tr>
<tr>
<td>15 Long term of high value subcontractor supplied equipment under the cranes working radius on the outfitting quay</td>
<td></td>
</tr>
<tr>
<td>16 Housekeeping of the paint store at the outfitting quay not adequate</td>
<td></td>
</tr>
<tr>
<td>17 Closing arrangements of main gas supply not adequate</td>
<td></td>
</tr>
</tbody>
</table>

We tell the Project about these  

The Project proposes these
<table>
<thead>
<tr>
<th>GRADE LETTER DEFINITION</th>
<th>GRADE LETTER AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As-New Condition.</strong> Unable to be improved. Extremely low</td>
<td>A</td>
</tr>
<tr>
<td>levels of risk. Recommendation inappropriate. <strong>This grading</strong></td>
<td></td>
</tr>
<tr>
<td>is unlikely to be achieved at any initial survey</td>
<td></td>
</tr>
<tr>
<td><strong>Noteworthy.</strong> Active risk management in place and practiced.</td>
<td>B</td>
</tr>
<tr>
<td>Strong/positive management overview &amp; bonding with work</td>
<td></td>
</tr>
<tr>
<td>force. Innovative procedures implemented. Without commonly</td>
<td></td>
</tr>
<tr>
<td>found risk factors. **Difficult to achieve, difficult to</td>
<td></td>
</tr>
<tr>
<td>retain**</td>
<td></td>
</tr>
<tr>
<td><strong>Satisfactory.</strong> The standard benchmark of an enterprise</td>
<td>C</td>
</tr>
<tr>
<td>that implements good industry practice.</td>
<td></td>
</tr>
<tr>
<td><strong>Unsatisfactory at Survey.</strong> Acceptable in the short term</td>
<td>D</td>
</tr>
<tr>
<td>while agreed rectification in progress. Will attract a</td>
<td></td>
</tr>
<tr>
<td>Recommendation for improvement within a given time scale.</td>
<td></td>
</tr>
<tr>
<td><strong>C-Grade achievable when risk factors eliminated/managed.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Seriously defective.</strong> Presents a level of risk considered</td>
<td>E</td>
</tr>
<tr>
<td>unacceptable. Will attract a Recommendation requiring</td>
<td></td>
</tr>
<tr>
<td>immediate rectification/upgrade.</td>
<td></td>
</tr>
</tbody>
</table>
METHODOLOGY

From
CONDITION SURVEY

From
“STAND-OFF” DESCRIPTIVE REPORTING

From
PRESCRIPTIVE RECOMMENDATIONS

To
RISK ASSESSMENT

To
“PRO-ACTIVE ASSESSMENT AND INVOLVEMENT

To
RISK FACTOR MANAGEMENT
METHODOLOGY

From
CONDITION SURVEY

To
RISK ASSESSMENT

- No Longer a description
- No Longer equipment only
- No Longer a Shopping List

- What are the THREATS?
- What are the RISK FACTORS?
- How Do I Deal With Them?
METHODOLOGY

From
“STAND-OFF” DESCRIPTIVE REPORTING

THE SURVEY DOES NOT FINISH WITH A NARRATIVE REPORT AND A LIST OF RECOMMENDATIONS
THEN
“Good-bye”

To
“PRO-ACTIVE” INVOLVEMENT AND EVALUATION

- THREATS DEFINED
- RISK FACTORS IDENTIFIED
- RISK FACTORS ELIMINATED
- RISK FACTORS CONTROLLED

BMT Marine & Offshore Surveys
METHODOLOGY

From

PRESCRIPTIVE RECOMMENDATIONS
And
“Counsels of Excellence”

No Hotwork will be carried out without adequate supervision
Hotwork will be carried out with adequate supervision

MEANINGLESS !!!

To

RISK FACTOR MANAGEMENT

TECHNICAL GAS MANAGEMENT
SUBDIVISION MANAGEMENT
WASTE MANAGEMENT
FIRE LOAD CONTROL
SMOKING CONTROL
REALISTIC TRAINING SCENARIOS
PRODUCTION ACCOUNTABILITY

NOT ROCKET SCIENCE !!!
SOME COMMENTS MADE BY PARTICIPANTS IN THE FOREGOING INCIDENTS
Management Statements to Surveyors

“It wasn’t one of our men smoking who started the fire it was a subcontractor.”

- “The welder didn’t have permission to weld in that area, no one knew about it until the fire.”

- “As far as we knew all the compartments were gas free, the explosion must have been an isolated gas pocket.”

- “No, there wasn’t sufficient water pressure at the berth then, but now we are now putting in new pumps.”
Management Statements to Surveyors

“The Superintendent had told us the load only weighed 20 tonnes, if we’d known it was nearer 40 tonnes we wouldn’t have used that crane.”

- “We assumed that the crew had disconnected the electric scoop valve; the engine room flooding was not our fault.”

- “The fire spread quickly and as bad luck would have it, the fire team were in the canteen at the time.”

- “We couldn’t get the city fire brigade to respond in time, but our own team tried their best. It was unfortunate that the equipment wasn’t ready.”
Management Statements to Surveyors

“No, we hadn’t had an evacuation drill, but everyone had a paper telling them what to do.”

- “It is impossible to stop people from smoking! People here smoke all the time.”

- “We spend a fortune on security as it is, isn’t that enough? Fires will always occur, but the security people should be able to report them quickly.”

- “That was an act of nature. It is impossible to withstand such winds!”

- “Shipyards are dangerous places and accidents occur, but that’s why they have insurance!”
Thank you