Compliance as process: Work safety in the Chinese construction industry

Li, N.

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## Appendix

### 1. Legal Context of the Construction Work Safety Case in China

<table>
<thead>
<tr>
<th>Theme</th>
<th>Construction</th>
<th>Safety Production</th>
<th>Other relevant</th>
</tr>
</thead>
</table>
Law of Occupational Disease Prevention and Treatment (2011)  
...... |
Regulation on Special Equipment’s Safety Supervision (2009)  
...... |
| **Local Regulation** | Rules of Investigation and Handling of Construction Safety Accident of XXX Province/XXX City | Regulations on Safety Production of XXX Province | ...... |
2. Regulatory Context of the Construction Work Safety Case in China

*Ministry of Housing and Urban-Rural Development of PRC*

- **Department of Construction Quality and Safety Regulation**
  - In charge of: making rules and policies about construction quality, safety as well as reviewing project completion; organising investigation and handling major safety or quality incidents; making technological policies about construction as well as engineering survey, design and consulting; making construction standards, etc.

*Department of Construction Quality and Safety Regulation*

- **Bureau of Housing and Urban-Rural Development of XXX Province**

- **The People’s Government at Provincial Level**

- **Department of Construction Quality and Safety Regulation**
  - In charge of: making local rules and policies about construction quality, safety as well as reviewing project completion; conducting supervision towards implementation of the above-mentioned rules and policies; organising emergency rescue, investigation and handling of major safety or quality incidents; conducting law enforcement in the field of construction, etc.

*Department of Construction Quality and Safety Regulation*

- **Bureau of Housing and Urban-Rural Development of XXX Municipal City**

- **The People’s Government at Municipal City Level**

- **Station of Construction Safety Regulation**
  - In charge of: daily regulatory enforcement of construction safety for the construction projects under jurisdiction; registration of construction project; reviewing project completion; safe production license; safety education for practitioners in construction projects, etc.

*Station of Construction Safety Regulation*

- **Bureau of Housing and Urban-Rural Development of XXX County/Municipal District**

- **The People’s Government at County/Municipal District Level**

- **Department of Construction Quality and Safety Regulation**
  - In charge of: daily regulatory enforcement of construction safety for the construction projects under jurisdiction; registration of safety measures in the construction project; on-site reviews before application for construction license; reviewing project completion, etc.
3. Data Collection for the Regulatory Process

3.1 General Data Collection

(1) Organisation
What is the main task of the construction safety regulatory authority at the district level (district safety station)?
What is the power and jurisdiction of district safety station?
How many administrative levels does it have within the organisation?
What is the work distribution?
What resources do they have?
Does the district safety station need to finish some indexes coming from the government?

(2) Personnel management
How many inspectors does it have and the sex ratio?
How does it recruit and train inspectors?
How do inspectors get their certification? Do all of them need it?
In what kind of situations will inspectors be awarded or punished?
What is the relationship between superiors and junior agents?

(3) Routine work
How often do they conduct inspections?
What is the given time frame for inspection?
What do inspectors do when not inspecting?
Do they cooperate with other agents in an inspection? If yes, how is it decided what the personal tasks are conducted in an inspection group?
What kind of pressures do inspectors have? Does the agent often receive complaints and what are the complaints?

3.2 Observation Guideline for Safety Inspection

(1) Preparation
What do inspectors say before the inspection, e.g. Why choose this firm? And what do they think they will find?
Do inspectors inform the enterprise before inspection?
How do inspectors prepare for the inspection?

(2) Content/activity
What do inspectors focus on at the construction site? (e.g. certification/workers/ technical facilities, etc.) Which types of safety problems do they chose?
How do inspectors examine the certification of enterprise as well as other
Appendix

(3) Communication

- How do inspectors introduce themselves and how do the firms respond?
- How does the inspection then move from introduction to the next step?
- How do the firms respond? What attitude do they have? Do they defend, try to obscure, or bargain etc.?
- What happens when violations are discovered? How are they discussed and how does the firm respond?
- How does the inspection move from discussing the violations to discussing possible sanctions? What is discussed exactly?
- Do inspectors change their ideas of violation after communicating with the enterprise?

(4) Decision

- Does the enterprise violate regulations?
- What is the final decision?
- Do inspectors check the violation again?

3.3 Guideline for Interviews with Individual Inspectors

(1) Goal of work

- What is the purpose of inspection in your personal opinion? (您自己认为安全监管的目的是什么？)
- How do you define your role in the inspection? (您如何定位自己的工作？)

(2) Inspector’s views of regulated actors

- Can you describe what you think about the regulated construction firms under jurisdiction? (您能描述一下目前监管的这些建筑企业和项目情况如何？)

(3) Inspector’s focus of attention

- What do you think is /are the crucial aspect(s) of the inspection? (你认为去现场检查的重点是什么？)

(4) Inspector’s opinions on enforcement style

- What are the most effective ways/measures for safety enforcement? (e.g. punishment, communication, education, etc.) (你认为安全执法最有效的手段或者方式是什么？)

(5) Inspector’s opinions on effect of the inspection (interview afterwards)

- Can you explain why you did .....(some specific behaviour/decision) during this inspection? (您能解释一下为什么这样做吗？)
- How do you think the inspection went? (您觉得这次现场检查做得如何？)
### 4. Coding Method for Safety Inspection

<table>
<thead>
<tr>
<th>Variable</th>
<th>“0”</th>
<th>“1”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prioritisation</strong></td>
<td>Indicates that agent tried to examine safety issues as much as they could find/see on the construction sites.</td>
<td>Indicates that agents only focused on safety issues they were concerned about at that moment on the construction sites.</td>
</tr>
<tr>
<td><strong>Intensity</strong></td>
<td>Indicates that agents just had a quick check and make their judgement based on a paper-trail and question-answer method.</td>
<td>Indicates that agents tried to conduct a substantial check not only using paper-trail and question-answer method, but also a full examination.</td>
</tr>
<tr>
<td><strong>Instruction</strong></td>
<td>Indicates that agents did not explain the content of relevant norms, did not explain to the regulated actors why they have violated and how they can correct behaviour or improve performance.</td>
<td>Indicates that the agent put effort in explaining why the enterprise was in violation, agent also gave advice on how to correct behaviour or improve performance.</td>
</tr>
<tr>
<td><strong>Persuasion</strong></td>
<td>Indicates that during inspection, agents seldom tried to explain the importance of compliance and possible negative effects of violation, seldom convinced firms to comply with the law.</td>
<td>Indicates that during inspection, agents often tried to explain why it is important to comply with the law, the benefit of compliance, and tried to convince firms to comply with the law.</td>
</tr>
<tr>
<td><strong>Coercion</strong></td>
<td>Indicates that during inspection, agents seldom gave a threatening massage, and hesitated issuing sanctions, even when there were serious violations.</td>
<td>Indicates that during inspection, agents threatened to use a sanction or tended to use a punitive measure, even when there were no serious violations.</td>
</tr>
<tr>
<td><strong>Formalism</strong></td>
<td>Indicates that agent talked and behaved in an informal way, executed inspection procedure flexibly, and rarely referred to law.</td>
<td>Indicates that agent talked and behaved in a formal way, as well as executed inspection procedure inflexibly, and referred to law when necessary.</td>
</tr>
</tbody>
</table>
5. Data Collection for the Organisational Process

5.1 General Data Collection

(1) Project information
- What are the scale, overall investment, and time limits of this project?
- How many work groups are co-working at this construction site?

(2) Organisation characteristics
- When was the firm established? What is the size of the firm?
- What types of projects does the firm usually undertake?
- How does the firm organise a management team for one project? And how does the firm manage such a team once established?

5.2 Observation Guideline for Inner Compliance Management

(1) Content/activity
- How often do they conduct safety inspections?
- What do inspectors focus on during inspection? Which types of safety problems do they choose?
- What do inspectors do after they find violations?
- How do inspectors record the whole inspection?

(2) Communication
- How do inspectors talk with the worker concerning the safety problems? And how does the worker respond?
- What happens when violations are discovered? How are they discussed and how does the worker respond?
- How does the inspection move from discussing the violations to discussing possible sanctions? What is discussed exactly?
- Do inspectors change their ideas of violation after communicating with the worker?

(3) Decision
- What is the final decision? Does the inspector explain the decision to the worker?
- Do inspectors check the violation again?

5.3 Guideline for Interviews with Individual Managers

(1) Personal history of working in the construction industry
- When did you start to work in the construction industry? (您从什么时候开始从事这一行业的？)
- What kind of jobs have you done in this field? (您在这一行具体做过哪些工作？)
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What is your main task in this project? (您在这个项目里具体负责什么？)

(2) Perception of safety problems

What do you think are the main safety issues in a construction project? Why? (您认为一个项目中最关键的安全问题有哪些？为什么？)

Is it a challenge for the management team to deal with safety issues in this project? Why? (在这个工地有关安全方面的管理有没有遇到什么困难或者挑战？)

(3) Motives of safety performance by the corporation

Do you think safety issues should be one of the main concerns in a project? (您认为在一个项目中，安全问题应不应该是重点关注的领域？)

Can you explain whether and how the corporation seeks to improve safety performance? (您能说说公司有没有或者如何做来提高工地上的安全实践的？)

(4) Safety management

What are the basic safety systems and management policies in this project? (这个项目里基本的安全制度和安全管理机制有哪些？)

Is there any job distribution on safety management among the mangers? (在项目部里对安全管理有具体分工吗？)

Is there any safety specialist in this project? (这个项目里有专职的安全员吗？)

(5) Organisational safety inspection (for in-house safety inspector)

What is the purpose of inspection in your personal opinion? (你个人认为日常安全监管的目的是什么？)

How do you define your role in the inspection? (您如何定位自己的角色？)

What do you think is/are the crucial aspect(s) of the inspection? (您认为自己工作中最关键的方面有哪些？)

What are the most effective ways/measures for safety inspection? (e.g. punishment, communication, education, etc.) (您认为安全监管最有效的方式或者手段是什么？)

What do you think about the worker in this project? (您如何评价这个工地上的工人？)

(6) Perception about external regulation

Will the safety station come and check your work? If yes, how often? (安监站会来检查吗？一般多久来一次？)

How did the inspectors behave during the last inspection? (安全站来人一般怎么检查？)

What do you think about the inspectors? (您对安监站的检查员如何评价？)

What did you do during the last inspection? (上一次经历安全检查时，您具体做过什么？)

What was the result of the last inspection? (上一次安全检查的结果如何？)

What did you generally learn from the inspection? (您从这些安全检查中体会到什么？)
6. Data Collection for the Individual Process

6.1 Guideline for Interviews with Individual Workers

(1) Background and work history

How long have you worked in the construction industry?
Where did you learn to do this job? (您干这一行多久了？是在哪里学的手艺?)

(2) How the worker does his job

Is your job risky? What do you need to pay particular attention to in your work? (您觉得自己这份工作危险吗？工作中有哪些是要特别注意的事情？)

(3) (naturally goes to the observed behaviour) Inductive questions

- Behaviour 1: Wearing helmet

  [for observed complier] Do you always wear a helmet during work? Why?
  (工作时您会一直带着这个安全帽吗？为什么？)

  [for observed non-complier] I noticed that you did not wear a helmet during work, Why? (我注意到您没有带安全帽，这是为什么呢？)

- Behaviour 2: Wearing rope

  [for observed complier] Do you always wear a safety rope during work? Why?
  (操作中您会一直带着这个安全绳吗？为什么？)

  [for observed non-complier] I noticed that you did not wear a safety rope during work, Why? (我注意到您没有带安全绳，这是为什么呢？)

- Behaviour 3: Use of electricity

  How do you get the electricity? (您在用的这个电是怎么来的？)

  [for observed complier] So you always use electricity in this way? Why?
  (所以您一直是这样使用电的？为什么？)

  [for observed non-complier] Why do you connect the electricity by yourself? (您为什么选择自己私自接电呢？)

(4) Deterrence

Is there anyone coming to the site and inspecting your work and behaviour? (会有人来现场检查你们的工作吗？)

How high is the probability that a violating behaviour (in the specific dialogue, it then refers to 'not wearing helmet', 'not wearing safety rope', or 'connecting electricity privately') can be detected? (被发现的可能性有多大？)

What would happen if such a behaviour was detected? (被发现了会怎样？)

(Follow-up questions: Have you ever heard of any punishment for such (illegal) behaviour? What was the result of the punishment?) (您曾经听说过应
<table>
<thead>
<tr>
<th>(5) Descriptive social norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>How about others (doing their work)? (其他人也像您这样吗？)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(6) General duty to obey the law</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you agree: people should obey the law, even if it is a bad law, or if it is not enforced? (您同意这样一种说法吗：国家制定了法律，不管制定的好不好，不管政府有没有去执行它，我们都应该遵守？)</td>
</tr>
</tbody>
</table>

(Follow-up question: Why do you have such an opinion?) (为什么您会这么说呢？)
### 7. Coding Method for Three Variables of Individual Compliance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Positive</th>
<th>Negative</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deterrence:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detection probability</td>
<td>If indicated in any way: a probability of being discovered</td>
<td>If indicated in any way: no probability of being discovered</td>
<td>If indicated in any way: has no idea about it</td>
</tr>
<tr>
<td><strong>Deterrence:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanction impact</td>
<td>If indicated in any way: has a sanction impact, it is coded as positive</td>
<td>If indicated in any way: no or has only a slight sanction impact</td>
<td>If indicated in any way: has no idea about it</td>
</tr>
<tr>
<td><strong>Descriptive social norms</strong></td>
<td>If indicated in any way: other workers will obey the rules for any of the three behaviours</td>
<td>If indicated in any way: someone will violate the rules for any of the three behaviours</td>
<td>If indicated in any way: has no idea about it</td>
</tr>
<tr>
<td><strong>General duty to obey</strong></td>
<td>If indicated in any way: the law should be obeyed</td>
<td>If indicated in any way: the law need/should not be obeyed</td>
<td>If indicated in any way: has no idea about it</td>
</tr>
</tbody>
</table>