

Identification				Evaluation			Mitigation			
Subject	Work Process / Item	Integrity Risk	Inherent Risk Level (A)	Existing Practice	Mitigating Factor (B) (if the practice meets the criteria of mitigating factor)	Residual Risk Level (C = A - B)	Proposed Control Measure(s)	Action By	Mitigating Factor (D)	Revised Risk Level (E = C-D)
Construction of Prefabricated Work <sup>1</sup> outside Hong Kong	Making arrangement for inspection staff on accommodation, transportation and meals	Accepting advantages or entertainment (other than approved provisions) by inspection staff during inspection visits	3							
	Storing materials, installations, equipment and completed prefabricated work in factory	Tampering with materials, accepted works, related installations and equipment, completed prefabricated work in factory	3							
	Transportation of materials, installations and equipment and completed prefabricated work	Tampering with completed prefabricated work (e.g. materials, related installations and equipment) during transportation	2							
	Inspection arrangement	Concealing substandard works / manipulate inspection results during inspection visits	3							
	Compliance testing (including storage and transportation of test samples, process of sampling)	Manipulating test samples by contractors / factory operators with a view to concealing substandard works	3							

<sup>1</sup> E.g. Modular Integrated Construction (MiC) modules, precast concrete components, prefabricated steelwork, Design for Manufacturing and Assembly (DfMA), Multi-trade Integrated Mechanical, Electrical and Plumbing (MiMEP)

The integrity risks and their corresponding inherent risk levels are compiled based on the analysis of previous ICAC cases, and are by no means exhaustive and not intended to substitute any legal, regulatory or contractual requirements

Identification				Evaluation			Mitigation			
Subject	Work Process / Item	Integrity Risk	Inherent Risk Level (A)	Existing Practice	Mitigating Factor (B) (if the practice meets the criteria of mitigating factor)	Residual Risk Level (C = A - B)	Proposed Control Measure(s)	Action By	Mitigating Factor (D)	Revised Risk Level (E = C-D)
	Prefabricated work arriving on site	Concealing substandard prefabricated work arriving Hong Kong site by contractors	2							
	Checking payment for prefabricated work <i>(if interim payments is allowed for completed prefabricated work before delivery to Hong Kong)</i>	Falsifying documents by contractors to inflate interim payment application (e.g. applying payment for incomplete works)	3							

The integrity risks and their corresponding inherent risk levels are compiled based on the analysis of previous ICAC cases, and are by no means exhaustive and not intended to substitute any legal, regulatory or contractual requirements

**Summary of Integrity Risks and Control Measures on Construction of Prefabricated Work outside Hong Kong (Project Clients / Consultants)**

Subject	Work Process/Item	Integrity Risk	Inherent Risk Level	Control Measures	Type
Construction of Prefabricated Work outside Hong Kong	Making arrangement for inspection staff on accommodation, transportation and meals	Accepting advantages or entertainment (other than approved provisions) by inspection staff during inspection visits	3	<ul style="list-style-type: none"> <li>• Project clients/consultants are advised to provide accommodation, transportation and meals to their inspection staff. If there are operational needs for contractors or factory operators to make such provisions, the following measures should be taken:                             <ul style="list-style-type: none"> <li>➢ specify the standards of transportation, accommodation and meals to be provided by contractors / factory operators</li> <li>➢ require inspection staff to seek prior approval of approving authority for accepting transportation, accommodation and meals arrangements proposed by contractors / factory operators</li> </ul> </li> </ul>	Preventive
				<ul style="list-style-type: none"> <li>• After returning to Hong Kong from inspection visits, require inspection staff to –                             <ul style="list-style-type: none"> <li>➢ confirm compliance with approved arrangement;</li> <li>➢ report back actual provisions of meals received during the trips; and</li> <li>➢ declare that NIL advantages (other than approved transportation and accommodation provisions) and entertainment (other than approved meals) have been received during the trips</li> </ul> </li> <li>• Compile periodic statistical returns (e.g. analysis on inspection visit per individual staff, expenses incurred) for management monitoring and audit</li> </ul>	Detective
				<ul style="list-style-type: none"> <li>• Provide training and periodic reminders on integrity requirements to inspection staff, and require them to acknowledge receipt of such reminders</li> </ul>	Educational
	Storing materials, installations, equipment and completed prefabricated work in factory	Tampering with materials, accepted works, related installations and equipment, completed prefabricated work in factory	3	<ul style="list-style-type: none"> <li>• Require factory operators to –                             <ul style="list-style-type: none"> <li>➢ implement quality assurance systems for key operations in factories (covering fabrication, inspection, testing, storage);</li> <li>➢ maintain security systems (e.g. monitoring key operations in strategic locations of factories by closed-circuit televisions (CCTV));</li> <li>➢ adopt monitoring systems to ensure authenticity and traceability of completed prefabricated work; and</li> <li>➢ assign a unique number or code (e.g. built-in radio frequency identification (RFID) tags) to each completed prefabricated work</li> </ul> </li> <li>• Identify high-value and/or safety critical installations and equipment and require contractors / factory operators to adopt measures to prevent / detect unauthorised alteration or replacement after inspection and acceptance (e.g. built-in RFID tags for traceability)</li> </ul>	Preventive
				<ul style="list-style-type: none"> <li>• Require contractors to regularly reconcile quantities of materials and equipment delivered to factories, tested and approved, and used/installed in completed prefabricated work to detect and deter malpractices (e.g. use of untested materials in fabrication process)</li> <li>• Require factory operators to keep high-value and/or safety critical installations and equipment, completed/accepted prefabricated work at designated areas which are subject to CCTV surveillance</li> <li>• Detect suspicious activities or malpractice with the aid of digital technology (e.g. automatic alerts to project clients / consultants for fishy activities in fabrication factories captured by CCTV footage)</li> </ul>	Detective

The integrity risks and their corresponding inherent risk levels are compiled based on the analysis of previous ICAC cases, and are by no means exhaustive and not intended to substitute any legal, regulatory or contractual requirements

**Summary of Integrity Risks and Control Measures on Construction of Prefabricated Work outside Hong Kong (Project Clients / Consultants)**

Subject	Work Process/Item	Integrity Risk	Inherent Risk Level	Control Measures	Type
	Transportation of materials, installations and equipment and completed prefabricated work	Tampering with completed prefabricated work (e.g. materials, related installations and equipment) during transportation	2	<ul style="list-style-type: none"> <li>• Identify high-value and/or safety critical installations and equipment and require contractors / factory operators to adopt measures to prevent / detect unauthorised alteration or replacement after inspection and acceptance (e.g. built-in RFID tags for traceability)</li> <li>• Require contractors to use designated vessels/trucks with global-positioning tracking devices to transport completed prefabricated work from factories to construction sites for monitoring and recording movement</li> </ul>	Preventive
				<ul style="list-style-type: none"> <li>• Detect suspicious activities or malpractice with the aid of digital technology (e.g. sensors on installations and equipment that automatically alert project clients / consultants of fishy transportation route)</li> </ul>	Detective
	Inspection arrangement	Concealing substandard works / manipulate inspection results during inspection visits	3	<ul style="list-style-type: none"> <li>• Require factory operators to –                             <ul style="list-style-type: none"> <li>➢ implement quality assurance systems for key operations in factories (covering fabrication, inspection, testing, storage);</li> <li>➢ maintain security systems (e.g. monitoring key operations in strategic locations of factories by CCTV); and</li> <li>➢ adopt monitoring systems to ensure authenticity and traceability of completed prefabricated work</li> </ul> </li> <li>• Draw up a supervision plan for prefabricated work in factories which should set out –                             <ul style="list-style-type: none"> <li>➢ critical activities subject to inspections (e.g. fixing of reinforcing steel bars, selection of materials/equipment for compliance tests);</li> <li>➢ frequencies and ranks of inspection staff responsible for inspections; and</li> <li>➢ requirements on documentation and signing of inspection results, follow-up actions taken / to be taken, with supporting photos/videos and/or checklists containing all essential inspection items</li> </ul> </li> <li>• Identify high-value and/or safety critical installations and equipment and require contractors / factory operators to adopt measures to prevent unauthorised alteration or replacement after inspection and acceptance (e.g. by anti-tampering tapes)</li> </ul>	Preventive
				<ul style="list-style-type: none"> <li>• Regularly monitor implementation of supervision plan to detect and deter non-compliance, and update the plan to meet changing operational needs</li> <li>• Regularly reconcile quantities of materials and equipment delivered to factories, tested and approved, and used/installed in completed prefabricated work to detect and deter malpractices (e.g. use of untested materials)</li> <li>• Conduct random and remote supervisory checks with the aid of digital technology (e.g. conducting real-time supervisory checks through video-telephony), and document and sign the supervisory check records</li> <li>• Detect suspicious activities or malpractice with the aid of digital technology (e.g. automatic alerts to project clients / consultants for fishy activities in fabrication factories captured by CCTV footage)</li> <li>• Conduct verification tests to counter-check the test results submitted by contractors / factory operators and the quality of prefabricated work</li> </ul>	Detective

The integrity risks and their corresponding inherent risk levels are compiled based on the analysis of previous ICAC cases, and are by no means exhaustive and not intended to substitute any legal, regulatory or contractual requirements

**Summary of Integrity Risks and Control Measures on Construction of Prefabricated Work outside Hong Kong (Project Clients / Consultants)**

Subject	Work Process/Item	Integrity Risk	Inherent Risk Level	Control Measures	Type
	Compliance testing (including storage and transportation of test samples, process of sampling)	Manipulating test samples by contractors / factory operators with a view to concealing substandard works	3	<ul style="list-style-type: none"> <li>• Require fabrication factories to –                             <ul style="list-style-type: none"> <li>➢ implement quality assurance systems for key operations in factories (covering fabrication, inspection, testing, storage);</li> <li>➢ maintain security systems (e.g. monitoring key operations in strategic locations of factories by CCTV); and</li> <li>➢ adopt monitoring systems to ensure authenticity and traceability of test samples</li> </ul> </li> <li>• Require contractors / factory operators to seal test samples with anti-tampering tapes/bags</li> <li>• Require contractors to subject compliance tests conducted outside Hong Kong to same standards and requirements of those tests conducted in Hong Kong</li> <li>• For compliance test conducted in Hong Kong, require contractors to put in place security measures to prevent test samples from being tampered with (e.g. transporting test samples under supervision of inspection staff)</li> </ul>	Preventive
				<ul style="list-style-type: none"> <li>• Detect suspicious activities or malpractice with the aid of digital technology (e.g. sensors on test samples that alert project clients / consultants of fishy movement of test samples)</li> </ul>	Detective
	Prefabricated work arriving on site	Concealing substandard prefabricated work arriving Hong Kong site by contractors	2	<ul style="list-style-type: none"> <li>• Draw up an acceptance plan / checklist to set out essential items, installations and/or equipment of prefabricated work for inspections, ranks of site supervisory staff responsible and documentation requirement for inspection results and any follow-up actions taken / to be taken</li> <li>• Designate a representative to certify if prefabricated works comply with the requirements before delivery to site for assembly and document the quality records, test reports, inspection records according to the acceptance plan / checklist</li> </ul>	Preventive
				<ul style="list-style-type: none"> <li>• Ascertain authenticity of work and high-value / safety critical installations and equipment arriving on site (e.g. checking built-in RFID tags, security labels and/or anti-tampering tapes)</li> <li>• Conduct verification tests to counter-check the test results submitted by contractors / factory operators and the quality of prefabricated work</li> </ul>	Detective
	Checking payment for prefabricated work (if interim payments is allowed for completed prefabricated work before delivery to Hong Kong)	Falsifying documents by contractors to inflate interim payment application (e.g. applying payment for incomplete works)	3	<ul style="list-style-type: none"> <li>• Require contractors to submit payment applications with supporting documents (e.g. work records in factories)</li> <li>• Check payment applications against inspection and testing records of prefabricated work in factories maintained by inspection staff</li> </ul>	Preventive
				<ul style="list-style-type: none"> <li>• Detect anomaly in payment certification through supervisory checks and audits</li> </ul>	Detective

The integrity risks and their corresponding inherent risk levels are compiled based on the analysis of previous ICAC cases, and are by no means exhaustive and not intended to substitute any legal, regulatory or contractual requirements