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File name 文件名	Environmental Factors Surveillance and Management Procedure 环境因素监督及管理程序		

Approval process

审批过程

	Name 姓名	Title 职务	Signature 签名	Date 日期
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Approved by 批准人		Campus Safety Committee;		

Reversion records

版本历史记录

Rev. No. 版本号	Publication date 出版日期	Rev. reason/ content modified 再版原因/更改内容
01	2020-03-01	New file 新建文件

Relevant departments (select relevant departments with a “√”)

相关部门 (用√勾选相关部门)

Construction Dept. 校园建设部	√	Operation Dept. 校园运营部	√	H.R. Dept. 人力资源部	√
RIGS 研究创新和研 究生部	√	U.G. Dept. 本科教学部	√	I.T. Dept. 电脑信息部	√

Relevant documents 相关文件

No无

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Electronic edition ☒ Paper edition ☐

电子版 ☒ 纸版 ☐

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1. Scope 范围

This procedure is applicable to all GTIIT facilities with environmental factors.

此程序适用于在广东以色列理工学院内所有环境因素。

2. Introduction and Purpose 介绍及目标

Establish a framework to manage Campus environmental factors in responsible manner.

Assure that waste gas is handled in compliance with legal/regulatory requirements and GTIIT requirements.

制定本程序为控制校内环境因素，满足法律法规和相关要求(包括GTIIT要求)提供可供执行的框架。

2.1. 术语

Environmental factors 环境因素

一个组织的活动、产品或服务中能与环境发生相互作用的要素。

Significant environmental factors 重大环境要素

具有或能够产生重大环境影响的环境因素。

Environmental effect 环境影响

全部或部分地由组织的活动、产品或服务给环境造成的任何有害或有益的变化。

Waste 废弃物

Discarded material (generally a solid but can also be a liquid) generates from manufacturing products. It includes waste gas emissions and wastewater.

废弃物(一般有固体和液体种类)，用于生产制造中材料，包括经处理后的排放气体和生活污水。

Normal industrial waste 一般工业废物

Indicate the waste except the hazardous waste that is listed in the national directory of hazardous wastes or determined as a substance of hazardous characteristic according to the national identification standard GB5085 and method for hazardous waste GB/T 15555 which is stipulated by the state, from production, facilities maintenance process or lab.

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一般工业废物是指未被列入《国家危险废物名录》或者根据国家规定的GB5085鉴别标准和GB5086及GB/T 15555鉴别方法判定不具有危险特性的工业固体废物。

Hazardous Waste 危险废弃物

Hazardous waste is the solid waste that is included in states hazardous wastes category (ref. National Catalogue of Hazardous Wastes) or identified by hazardous wastes identification standard and methods of GB5085, with one or more hazardous characters of corrosive, toxic, flammable, reactive, radioactive and infective or solid wastes which cannot be excluded to have above mentioned hazardous character.

指列入国家危险废物名录或者根据国家规定的危险废物鉴别标准和鉴别方法GB- 5085认定的具有腐蚀性、毒性、易燃性、反应性，放射性和感染性等一种或一种以上危险特性，以及不排除具有以上危险特性的固体废物。

Waste gas 废气

Emission flows from point sources containing solid, liquid and/or gas contaminants generated by operations. For the purposes of this process description, may include heated gases generated from reaction, as well as gases generated from unit operations such as distillation, washing, tank storage, loading etc.

点污染源在生产过程中排放出的废气，包括由固体、液体或气体释放的气态污染物。其种类主要包括由反应产生的热气，以及由蒸馏、洗涤、储藏和装载等单元操作所产生的气体。

Waste gas sources 废气源

Sources that are vented through pipelines/ducts are covered under this process description. Waste gas source includes not fugitive waste gas sources.

在这里所指的是由各种管道排放产生的废气源头，不包括无组织排放。

Fugitive sources 无组织排放

Includes equipment leaks (from flanges, pump seals, valves, sampling points etc.) and volatiles emitted from basins, trenches etc. (such as wastewater volatile organic compound emissions - VOCs).

包括法兰、管道密封处、阀门、取样点等设备的泄漏，以及水池、沟渠等的挥发(如:废水中的可挥发性有机物)。

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Emissions inventory 排污目录

Listing of waste gas emissions sources generate by operation. At a minimum, pollution Outlets, its location in plant layout, and each outlet's related gas emissions sources should be noted. Refer to be an emission "register" in Campus EHS Department.

在生产过程中的废气排放清单，内容至少包括排污口名称，排污口在校房布局内的位置，以及每个排污口所涉及的污染源，此清单亦应由EHS办公室统计入册。

CRITICAL ENVIRONMENTAL EQUIPMENT关键环保设备

Environmental equipment or operations that could result in significant environmental impacts/non-compliance in situations where there are deviations from proper operation.

关键环保设备是指那些由于非正常运作可能造成重大的环境影响或环境违规的环保设备。

2.2. Responsibilities 责任

Through implementing the following procedure requirements throughout the whole Campus, to assure Campus environmental factors surveillance and control completely fulfill legal and GTIIT compliance.

通过在全校实施以下程序要求，确保校内环境因素的监督和控制完全符合法规和学校要求。

Campus management校管理层

- Make sure waste gas handling procedure to be implemented within GTIIT to fully follow up laws / regulations requirements.
确管理程序在广东以色列理工学院内的实施，以完全达到法律/法规要求。
- Provide necessary resources (manpower and finance etc.) to support this procedure.
提供必需的人力物力资源支持此程序。
- Enforce environmental factors surveillance and management requirements in own facility.
在校内执行环境因素监测和管理程序要求。
- Assure its critical environmental factors are always compliant with legal requirement.
确保关键环保因素得到定期正确的检测和监督，确保符合法规规定的各排放限值。

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EHS环境健康安全办公室

- Organize all department leaders or assigned engineer to identify all environmental factors in each department area.
组织各区域主管对各校区域环境因素进行识别。
- Periodically update location inventory and pollutants for facility air emission sources.
定期审核校内环境因素目录。
- Administrate, establish, communicate, conduct and record Campus environmental monitoring. The monitoring plan shall be reviewed yearly.
管理、建立、沟通、执行并记录校内环保监测，每年回顾监测计划。
- Periodically organize outside third party to handle environmental factors surveillance.
定期组织外部第三方检测机构对校内环境因素进行检测。
- Declare environmental factors to relevant authorities, one channel to authorities.
向相关部门进行环境因素申报，建立对政府的沟通渠道。
- Train operators including SOP of critical environmental factors, monitoring plan and standard.
培训员工，包括校内环境因素监督计划和要求。
- Provide technical / regulatory support to plants on an as needed basis.
向工校提供基本的技术/法规支持。

Waste Generated Unit 产废个体

- Each manager or leader of waste generated unit should take lead and select members to conduct the periodical environmental factors inspections according to unit's environmental resources.
各个产废单位根据自身的污染源制定相应的检查机制，并定期进行内部自检。
- When adding new process or equipment to introduce new pollutant resources, the department must apply to EHS, make risk assessment and develop control measure.
如有增加新的工艺或者设备导致引入新的污染源，必须向EHS办公室申报，并一同进行风险评估，制定相应的控制措施和检查机制。

Environmental facilities user or keepers环保设备使用者或负责人

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- Implement activities according to department requirement in environmental surveillance and control.
按照部门制定的环境监测及控制程序执行相应的活动。
- Monitor status of critical environmental equipment, and report malfunctioning equipment operation to supervisor.
监控关键环保设备的状态，并向主管报告设备故障。
- Perform and/or schedule routine maintenance on critical environmental equipment as specified by plants.
执行环保设备的日常维修保养。

2.3. Procedure requirement 程序要求

3.3.1 General requirements 基本要求

Target achievement 目标、指标的实现:

Campus safety council should set target or goal for Campus environmental factors, and review its effective. If there is any deviation in the setting target, take measure to keep it back to the original goal. Make sure comply with legal and GTIIT compliance.

校内安全委员会每次会议时，应对各部门的目标和指标完成情况进行审核，如有偏离，应及时采取措施以保证目标的有效实现。保证满足法律、法规要求。

The plant management shall review environmental performance at least once a year.

工校管理层应每年至少一次回顾其环保绩效。

Campus EHS shall check and audit each plant about the condition of procedure implementation at least once a year.

环境健康安全办公室应每年至少一次检查审核程序执行情况。

Summarize all environmental factors and their effect according to products manufacture process, process analysis, raw material list, and Campus observation etc. methods. Develop the relevant procedure or SOP to handle these

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environmental factors at different situation, such as: normal operation, abnormal situation etc.

参照产品流程，通过流程分析，原料清单，操作程序，现场观察等方法列出该区域内的所有环境因素及相关的设备/设施以及对环境的影响，并列出环境影响发生的情况(如正常时、异常时等)、处理方法、与其有关的标准操作程序等。

The affected employees must take the annual training and communication when the environmental factors change.

每年必须对本区域员工进行环境因素及其变化等进行培训和沟通。

3.3.2 Factors for environmental effect 对环境的影响应考虑下列因素:

- Emission to atmosphere 向大气的排放
- Discharge to water 向水体的排放
- Waste management 废物管理
- Soil pollution 土地污染
- Use of raw material and natural material 原材料与自然资源的使用
- Other environmental problems or community issue 其他当地环境问题和社区性问题

Campus should take significant environmental effect into account that rise companying with different situation, such as: normal operation, shut down, start up and emergency.

应考虑正常运行条件，关闭与启动时的条件以及可合理预见的情况或紧急状态所伴随的潜在的重大环境影响。

Audit and evaluation team should take charge of Campus environmental factors identification following with experts and professional guideline.

审核及评估工作小组负责在环境专家和环境评价报告书指导下，确定重大环境因素。

3.3.3 Elements for significant environmental factors identification

确定重大环境因素时要考虑下列因素:

- Requirement of Law and regulation

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法律、法规的要求；

- Hazard and frequency of surveillance
产生危害和检测的频率；
- Division of different district and inspection content for environmental factors
各区域的划分，对环境因素的检查内容；
- Scale, severity, duration of effect
影响的规模、严重程度、持续时间；
- Cost and difficulty of charging environmental effect
改变环境影响的费用、难度；
- Campus's public reputation
对学校公众形象的影响。

Register of normal or significant environmental factors 环境因素/重大环境因素登记

After identifying the environmental factors, EHS will collect all relevant information and document. (Register form reference to appendix)

当环境因素/重大环境因素确定以后，EHS办公室应根据各区域的上报资料，汇总、整理存档 (表格参见附录)

3.3.4 Re-evaluation 环境因素/重大环境因素的重新评价

- Any newly built, rebuilt, enlarged production project or engineering modification project shall have environmental re-evaluation, which will introduce new environmental or occupational factors.
新建、扩建、改建、技术项目改造及增添新设备对工作环境及场所内健康安全有明显影响；
- There is any modification of original regulation or new published law.
相关的法律法规及其它要求新颁布或重大修订；
- New environmental facilities change or replace to introduce new environmental factors.
新环保设备更换、变化产生新环境因素；
- Incident happen related to environmental factors.
发生重大事故。

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Surveillance for Campus off gas, waste liquid and waste solid please refer to Index of GTIIT environmental factors surveillance and management.

废气/废水/废渣监测内容请参考附件一校内环境因素监测及管理目录

EHS analyze the testing result and provide professional suggestion to Campus management and keep record. If abnormal situation happens, the emergency response will be triggered. Find out the root cause, take the corrective action and retest until the result meet the legal and GTIIT requirement. Keep all record in EHS.

EHS负责分析测试结果，将结果通知各部门主管，并将记录存档。

如有异常，应迅速启动校内环境紧急事故反应计划，查明原因并采取措施纠正，重新测试，直至合格。

3.3.5 Environmental factors catalogue 校内环境因素目录

Campus EHS shall develop and maintain an inventory of air emission sources.

This inventory shall include source location (with drawing reference), quantities, concentration, discharge methods and pollutant(s) emitted.

环境健康安全办公室制定并维护环境因素目录，各个部门根据相应因素制定检查机制，包括：监测频率、源位置(图)、量、浓度、排放方式及具体污染物。

3.3.6 Pollution source (Inc. waste gas source and fugitive emission)

污染源 (包括废气、废渣、废水、气源及其无组织排放源)

Campus EHS shall establish and execute a monitoring plan (e.g. sampling/analytical testing required, frequency, responsibilities) and this plan shall cover normal operations, start-up, shut-down, maintenance, and malfunction.

Monitoring results shall be documented and maintained.

环境健康安全办公室必须建立并执行一个监测计划,内容包括:采样、分析测试、采样频率、相关责任等;该监测计划应涉及正常运行、停车、维修及非正常状态;监测结果必须进行备案和维护。

Fugitive emission identified in the routine inspection or walk through should be recognized and reported to EHS department. Measures should be taken to eliminate the emission and ensure the compliance with emission standards.

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Engineering options, if necessary, should be identified to prevent any toxic and hazardous gas fugitive emission.

在日常巡检中识别出的无组织废气排放应该记录，并向EHS办公室报告。

应该采取措施减少无组织排放及确保和法规的符合。

必要的时候采用工程控制手段，识别方案以预防任何有毒及有害废气的排放。

3.3.7 Inspection for waste disposal 废弃物的处理检查:

EHS should organize all relevant lab building' representatives to inspect waste disposal company annually to ensure they follow legal and GTIIT requirement.

EHS每年组织对各栋实验楼的废弃物处理进行检查，以确定是否按照规定的程序进行处理。

3.3.8 Noise testing 噪音监测

EHS is responsible for workshop and boundary testing; the frequency should be more than one time per year.

EHS负责组织监测校内和校界噪音，测试频率不低于每年一次；

Noise testing in workshop includes the work position involving high decibel noise.

Noise for boundary test includes the area close to plant about 1 meter.

校内噪音监测点为各车间工位，校外噪音监测点为校界东南西北方向围墙外一米；

EHS analyze the testing result and provide the report and suggestion to all department heads, and keep all these testing record in place.

EHS负责分析测试结果，将结果通知各部门主管，并将记录存档。

If abnormal situation happens, find out the root cause, take the corrective action and retest until the result meet the legal and GTIIT requirement.

如有异常，应迅速查明原因并采取措施纠正，重新测试，直至合格。

Maintenance is responsible for noise detector's regularly calibration and keep maintenance record in place.

维修部负责对噪音测试仪进行定期校验，并保存相关记录。

The calibration of noise detector also can be done by qualified party, and the frequency should less than period of validity of its certificate.

噪音测试仪的效验也可以由有资格的机构进行，周期不得超过其发放的校验合格证有效期。

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1.0 Annex 附件

Index of GTIIT environmental factors surveillance and management

校内环境因素监测及管理目录

Surveillance for Off Gas 废气监测:

Environmental factors surveillance list 环境污染物监测目录			
Monitoring Area 监测范围	Monitoring Item 监测内容	Frequency 监测频率	Reference Value 参考标准值
Exhaust gas collection system 实验尾气收集系统	Total Volatile Organic Compound (TVOC) 总挥发性有机物	Time/ Quarter 次/季	DB 44/27-2001 表2第二时段二级排放标准
	Non-methane total hydrocarbons 非甲烷总烃		
	Sulfuric acid mist 硫酸雾		
	Hydrogen chloride 氯化氢		
	Carbon monoxide 一氧化碳		
	Sulfur dioxide 二氧化硫		
	Chromic acid mist 铬酸雾		

Surveillance for Waste water 废水监测:

environmental factors surveillance list 环境污染物监测目录			
Monitoring Area 监测范围	Monitoring Item 监测内容	Frequency 监测频率	Reference Value 参考标准值
Operation 运营	chemical leakage in daily operation area (tank farm / packaging area / raw material at dosing station) 校区内各区域日常操作的范围(罐区/包装区域/原料储存区域) 是否存在化学品泄露现象	Time/Day 次/天	Is there any leakage? 是否存在泄漏
	Production waste liquid (waste water) 生产型废液(废水) Index: Chemical Oxygen Demand (COD) 指标为: COD - 化学需氧量 BOD5-Determination of biochemical oxygen demand after 5 days BOD5 – 五日生化需氧量 SS-Suspended solids	Based on actual production condition to decide the frequency of test 根据实际生产状况, 制定检测次数	Base on 3 rd . level standard of "water contamination discharges limited value" 根据《水污染物排放限值》三级排放标准 COD _{Cr} ≤ 46.69t/a NH-N氨氮 ≤ 0.07t/a 6 ≤ PH ≤ 8

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	SS - 悬浮物 PH- hydrogen ion concentration PH - 酸性 NH ₃ -N-Ammonia NH ₃ -N - 氨氮 TP- total phosphorus TP – 总磷		
Warehouse 化学品仓库	chemical leakage in waste yard/temporary warehouse/dangerous goods warehouse 废料堆场/临时仓库/仓库/危险品仓库 是否存在化学品泄露现象	Time/Day 次/天	Is there any leakage or damaged package? 是否存在泄漏/包装破损等情况
Lab 实验室	chemical leakage 实验室内是否存在化学品泄露现象	Time/Day 次/天	Is there any leakage or damaged package? 是否存在泄漏/包装破损等情况
Workshop & Maintenance 加工中心及维修间	chemical leakage existing in important equipment or unorganized discharging area 各关键设备和存在无组织排放的节点 是否存在化学品泄露现象	Time/Day 次/天	Is there any leakage? 是否存在泄漏
environmental factors surveillance list 环境污染因素监测目录			
Waste water collection pool and Waste water treatment station 废水收集池及废水处理站	waste water online system and waste water collection pool should be compliant to limited value 废水在线监测系统、废水收集池确保符合限值排放 Index: COD 指标为: COD - 化学需氧量 BOD5-Determination of biochemical oxygen demand after 5 days BOD5 – 五日生化需氧量 SS-Suspended solids SS - 悬浮物 PH- hydrogen ion concentration pH - 酸性 NH ₃ -N-Ammonia NH ₃ -N - 氨氮 TP- total phosphorus TP – 总磷 TPb – 总铅 T Ag- 总银	Time/ 6month 次/6个月	Base on 3 rd . level standard of “water contamination discharge limited value” 根据《水污染物排放限值》三级排放标准 COD _{Cr} ≤ 46.69t/a NH ₃ -N氨氮 ≤ 0.07t/a 6 ≤ PH ≤ 8

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File name 文件名	Environmental Factors Surveillance and Management Procedure 环境因素监督及管理程序		

Surveillance for Waste solid 固废监测:

化学品及废弃物仓库环境污染物监测目录			
Monitoring Area 监测范围	Monitoring Item 监测内容	Frequency 监测频率	Reference Value 参考标准值
化学品仓库及废弃物仓库	Dust, Lab waste, waste batteries, waste lamps tube, waste pallets, 粉尘、实验室垃圾、废电池、废灯管、废旧托盘	Time/ Week 次/周	Storage in good order according to defined category. Package is at good condition, no scatter. 堆放是否整齐, 按类存放, 包装良好不导致散落于环境

Surveillance for Noise 噪音监测:

环境污染物监测目录			
Monitoring Area 监测范围	Monitoring Item 监测内容	Frequency 监测频率	Reference Value 参考标准值
Campus 校园边界	Boundary noise 校界噪音 The monitor point includes the area 1m away from plant boundary. (校外噪音监测点为校界东南西北方向围墙外一米)	Time/ Day 次/天	Does it exceed the limited value? 校界距离围墙外1米以上是否超过限值 Day昼:65db, night 夜:55db
环境污染物监测目录			
Every position of lab generating noise 各个产噪实验室岗位	Noise positions marked in the pollutant permit 校内噪音 (校内噪音监测点为排污许可证上标注噪声排放口位置)	Time/ 6month 次/6个月	The testing point should be 1.2m high from the ground, 50cm and 100cm distance from the noise sources. 距离地面1.2米, 距离噪声源50cm和100cm进行测量噪声值;