

**Regierungspräsidium Darmstadt  
(Regional Council of Darmstadt)**

**Abteilung Arbeitsschutz und Umwelt Frankfurt  
(Division for Occupational Safety and Environment)**

**HESSE**



**Acknowledgement of receipt required**

Redux Recycling GmbH  
represented by its general manager:  
Holger Kuhlmann  
Brockmannstrasse 39  
63075 Offenbach am Main

Reference number (please quote in all correspondence):

IV/F42.1 - 100h 14.05-Redux-1 -

Person in charge: Holger Jeuck

Extension: 069 - 27 14-3944

Date: 20 May 2016

**Approval process under the Federal immission control act (BImSchG)**

**Applicant: REDUX Recycling GmbH, Offenbach**  
**Plant: Plant for differently handling and temporarily storing hazardous and non-hazardous wastes, Brockmannstrasse 39, 63075 Offenbach**  
**Project: New approval for establishing and operating a plant to recycle batteries**

**Notice of approval**

**I.**

In relation to the application of 14 July 2015, approval is granted to Redux Recycling GmbH, Brockmannstrasse 39, 63075 Offenbach

according to Section 4 of the Federal immission control act to establish and operate a plant to recycle batteries on the

site in: Offenbach  
district: Bürgel  
lot: 7  
plot of land: 364/14, 299/1, 386/3, 361/1

This approval is issued subject to the plans, drawings and descriptions specified in Chapter III. of this notice, and subject to the incidental provisions stipulated in Chapter VI.

The approval shall entitle to establish and operate a plant for differently handling and temporarily storing hazardous and non-hazardous wastes (battery recycling plant).

The plant comprises the sites (lot 7, plots of land 364/14, 299/1, 386/3, 361/1), buildings and facilities described in the application documents.

The plant consists of the operating units described below:

BE 1 - Warehouse

TBE 1.1: Secondary/mixed batteries storage site

TBE 1.2: Primary batteries storage site

BE 2 - External storage area

TBE 2.1: Blocked and secure storage site

TBE 2.2: Pit storage site

TBE 2.3: Output storage site further utilisation

TBE 2.4: Zinc oxide/manganese oxide storage site

BE 3 - Sorting plant

TBE 3.1: Daily production provisioning area

TBE 3.2: Equipment and industrial mixed batteries sorting plant

TBE 3.3: Special sorting plant

BE 4 - Primary batteries processing plant

TBE 4.1: Primary batteries comminution plant (granulator)

TBE 4.2: Processing black mass separation plant

TBE 4.3: Cooling storage site

TBE 4.4: Alkaline manganese batteries separation plant

TBE 4.5: NiMH batteries pretreatment plant (MOCO shredder)

BE 4 - NiMH batteries processing plant

TBE 5.1: NiMH batteries processing plant (cross-flow shredder)

BE 6 - Industrial batteries discharge/disassembly plant

TBE 6.1: Industrial batteries discharge/disassembly plant

BE 7 - Waste air plant

TBE 7.1: Separation plants dust filter plant

TBE 7.2: Processing plants dust filter plant

TBE 7.3: Activated carbon filter

Secondary operating systems: Workshop, scale, transformer station

The maximum hold-up of hazardous substances as set forth in the hazardous incident ordinance (StörfallV-12th BImSchV) is 161 t.

As set forth in the StörfallV, the maximum hold-up of hazardous substances is particularly limited to 50 t of black mass, 24 t of zinc oxide, 24 t of manganese oxide, 62 t of material containing nickel hydroxide, 0.5 t of condensers (interfering substances), 0.5 t of lamps (interfering substances).

Relevant hazardous substances as set forth in the report on pretreatment conditions (Ausgangszustandsbericht /AZB) are not used in other plant site sections that have so far not been assessed.

The applicant shall bear all costs of this procedure.

The costs amount to € 15,000.00.

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### **II. Decisive BAT reference document (best available technology /BVT)**

The following reference document is decisive for the hereby approved plant:

Integrated avoidance and reduction of environmental pollution (Integrierte Vermeidung und Verminderung der Umweltverschmutzung /IVU) "reference document on best available technologies for waste processing plants" („Merkblatt über die besten verfügbaren Techniken für Abfallbehandlungsanlagen") published by the Federal environmental agency (Umweltbundesamt)

<http://www.umweltbundesamt.de/themen/wirtschaft-konsum/beste-verfuegbare-techniken/sevilla-prozess/bvt-download-bereich>).

### **III. Application documents**

This decision is based on the following documents:

- I.** Written Application of 14 July 2015 Appendix 1
- II.** Application documents as per Index Appendix 2
  - 1. Application under the Federal immission control act
  - 2. List of application documents
  - 3. Brief description

4. Documents containing business secrets
  5. Location and surroundings of the plant
  6. Plant and procedure description, business description
  7. Substances, substance quantities and substance data
  8. Air quality control and provisions against harmful environmental effects
  9. Waste avoidance and waste disposal
  10. Waste water
  11. Special demands on waste disposal facilities
  12. Energy and waste heat utilisation
  13. Protection against noise, vibration and other immissions
  14. Plant security
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  17. Handling substances hazardous to water
  18. Application for building permit
  19. Documents for other concessions
  20. Documents for environmental impact assessment
  21. Measures after cessation of business
  22. Report on pretreatment conditions of soil and groundwater
- III.** Addendum of 18 Dec 2015 (received on 21 Dec 2015, filed in application documents) Appendix 2
- IV.** Addendum of 1 Feb 2016 (addition to AZB concept, filed) Appendix 2
- V.** Addendum of 26 Feb 2016 (received on 29 Feb 2016, filed) Appendix 2

#### **IV. Included decisions**

This approval includes other administrative decisions concerning the plant under Section 13 BlmSchG that is:

building permit according to Section 64 of the Hessian building regulations (HBO).

The notice of approval is issued irrespective of administrative decisions that are not included by the approval according to Section 13 BlmSchG (Section 21 (2) of the 9th BlmSchV).

#### **V. Plant specifications according to Section 21 (2a) of the 9th BlmSchV**

1.

The protection of soil and groundwater and provisions to monitor and handle wastes that are produced by the plant are regulated by incidental provisions of this notice.

2.

a)

It is necessary to carry out measurements to monitor compliance with emission threshold values as set forth in Section 21 (2a) of the 9th BlmSchV because relevant emissions may be recorded in the course of processing batteries.

This requires regulations for verifying compliance with emission threshold values or other requirements. Requirements with regard to measurement methodology, measurement frequency and evaluation procedures depend on the type of emissions and waste air purification systems used.

Based on the provisions of air quality control, it is not required to define provisions in relation to operating

conditions deviating from normal ones. Special emission situations that may occur during start and stop operations of processing plants are not expected. An accidental release of substances is likewise not expected because these substances/materials are not handled or stored at the plant.

b)

The decisive document for the hereby approved plant is the "reference document on best available technologies for waste processing plants" („Merkblatt über die besten verfügbaren Techniken für Abfallbehandlungsanlagen") published by the Federal environmental agency (Umweltbundesamt) (<http://www.umweltbundesamt.de/themen/wirtschaft-konsum/beste-verfuegbare-techniken/sevilla-prozess/bvt-download-bereich>).

3.

a)

Regular plant maintenance is regulated in operating manuals, company regulations and incidental provisions of this notice, and in appropriate application documents that together constitute a common groundwork for approval.

a) and c)

Additional obligations requiring protection of soil and groundwater are not necessary because

- the surfaces are completely sealed with a waterproof and chemical resistant base plate in the battery processing plant area et al., and
- substances hazardous to water are present in solid state having a low solubility so that they may easily be eliminated after possible accidents, and
- substances hazardous to water (manganese oxide, zinc oxide, electrolytes) are stored in plastic and metal containers or in concrete bunkers.

It is not beneficial to regularly monitor the soil because the areas to be tested for preparing a report on pretreatment conditions are no longer accessible during the operation due to machinery locations, and because the waterproof sealing would be damaged by drillings.

Provisions to avoid a contamination of soil and groundwater are therefore monitored in the form of systematically assessing the contamination risk by means of expert monitoring under water law that is to be repeated every five years at least.

Groundwater monitoring shall replace soil monitoring as an additional precaution to be carried out at an intensified sampling frequency. This means that sampling shall be carried out every two years for the time being. If findings are normal, the sampling frequency could possibly be adapted.

4.

Measures in relation to operating conditions deviating from normal ones and in relation to a final shutdown of the plant are regulated in the operating manual and company regulations according to incidental provisions VI. No. 16 of this notice.

5.

The design of the plant does not cause wide-ranging or transboundary environmental pollution and therefore requires no regulations.

## **VI. Incidental provisions according to Section 12 BImSchG**

### **1. General information**

1.1

The plant may not be operated other than specified in the documents submitted and described in Section III. unless changes are required hereinafter.

1.2

The original or a copy of the notice must be kept in safe custody on the company site and be submitted to servants of the approval and supervisory authorities on demand.

1.3

Any operating staff must be informed on regulations included in the notice of approval in relation to operating the plant.

1.4

While operating the plant, a supervisor in charge and familiar with the plant must be present at all times.

1.5

If there are contradictions between the content of the documents referred to in Section III. and the incidental provisions determined in Section VI., the latter shall take precedence.

1.6

The plant operator shall immediately notify the Regional Council of Darmstadt - Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1, about any significant disturbances of the intended operation of the plant.

1.7 Immission control commissioner

The plant operator shall appoint an immission control commissioner in accordance with the regulations of Sections 1 to 5 of the 5th BImSchV. The plant operator shall announce the name, exact address and telephone number of such person to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1.

1.8

The application for appointing a non-employee immission control commissioner - namely: (Mister) Dr. Görtier (English spelling: Goertier) - can be approved.

1.9 Waste commissioner

The plant operator shall announce the name, exact address and telephone number of the waste commissioner appointed according to Section 59 of the Closed loop recycling act (KrWG) to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1. Only such persons may be appointed who are trustworthy and competent.

If the waste commissioner or his representative is replaced by another person, the appropriate authority responsible for supervision under waste legislation must be notified immediately.

*Notes:*

1.

Any substantial change of location, design or operation of a plant requiring approval needs to be authorised if such change may cause detrimental effects that may be significant for the assessment according to Section 6 (1) No. 1 BImSchG (cf. Section 16 (1) BImSchG).

Any change of location, design or operation of a plant requiring approval must, insofar as an authorisation is applied for, be notified in writing to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1, at least one month before implementation of the planned change if such change has an effect on the protected resources specified in Section 1 BImSchG. Besides, reference is made to the wording of Section 15 (1) and (2) BImSchG.

2.

In the event of non-compliance with an obligation, the operation of the plant may be prohibited in whole or in part until the incidental provisions are complied with (Section 20 BImSchG).

3.

If, after granting authorisation, the general public or environments are not sufficiently protected against harmful environmental effects or other risks, or against significant disadvantages or nuisances, the responsible authority may order subsequent regulations according to Section 17 of the Federal immission control act.

4.

If the event of a change of operator, the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1, shall be notified immediately.

## **2. Deadlines**

2.1

The date of initial operation of the plant shall be notified in writing at least two weeks in advance to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1.

2.2

This approval shall expire if the approved plant or parts thereof are not established or operated within 3 (three) years after enforceability of this approval.

2.3

The approval shall expire if the plant has not been operated during a period of more than 3 (three) years. The approving authority may on request extend the deadline for good cause if in so doing the purpose of the BImSchG is not jeopardised.

2.4

Furthermore, the approval shall expire if the requirement of approval is repealed (Section 18 BImSchG).

2.5

If the plant operator intends to suspend operation of the plant requiring approval, he shall according to Section 15 (3) BImSchG immediately notify the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1, by enclosing all relevant documents.

2.6

Any information shall according to Section 31 (1) BImSchG be submitted to the responsible supervisory authority annually not later than 31 May of each following year. The form to be used is available at <http://www.hlnug.de/themen/luft/downloads/downloads-ueberwachung.html>.

## **3. Report on pretreatment conditions**

Before initial operation of the plant, it is required to prepare a report on pretreatment conditions of soil and groundwater for the plant site in relation to relevant hazardous substances according to Section 3 (9) and (10) BImSchG (report on pretreatment conditions - AZB).

This report on pretreatment conditions must contain any information according to Section 4a (4) of the 9th BImSchV and shall be prepared by a competent authority/person qualified in soil protection matters.

Condition:

An initial operation of the plant may take place only if the approving authority has consented to the report on pretreatment conditions in writing.

It must be ensured that the hereby approved construction measures do not impair any assessments for the purpose of preparing the AZB.

#### 4. Waste management requirements

##### 4.1 Waste catalogue

###### 4.1.1 Approved input (received) materials and quantities

| AVV No.   | AVV description   | Internal No.     | Internal description                                  | Quantity   |
|-----------|---|------------------|---|------------|
| 16 06 04  | Alkaline batteries  | RA 1             | Batteries to be processed                             | 15,000 t/a |
| 16 06 05  | Other batteries and accumulators  | RA 1.1<br>RA 1.2 | Alkaline manganese batteries<br>Zinc-carbon batteries |            |
| AVV No.   | AVV description   | Internal No.     | Internal description                                  | Quantity   |
| 20 01 33* | Batteries and accumulators falling under 16 06 01, 16 06 02 or 16 06 03, and mixed batteries and accumulators containing such batteries | RA 2             | Mixed batteries to be sorted                          | 6,000 t/a  |
| 20 01 34  |   | RA 2.1           | Alkaline manganese batteries                          |            |
|           |   | RA 2.2           | Zinc-carbon batteries                                 |            |
|           |   | RA 2.3           | Lithium primary batteries                             |            |
|           |   | RA 2.4           | Lithium-ion batteries                                 |            |
|           |   | RA 2.5           | NiCd batteries  |            |
|           |   | RA 2.6           | NiMH batteries  |            |
|           |   | RA 2.7<br>RA 2.8 | Button cells<br>Lead batteries                        |            |
| 16 06 05  | Other batteries and accumulators  | RA 3             | NiMH batteries to be processed                        | 1,800 t/a  |
| 16 06 02* | NiCd batteries  | RA 4             | NiCd batteries  | 300 t/a    |
| 16 06 01* | Lead batteries  | RA 5             | Lead batteries  | 1,000 t/a  |
| 16 06 03* | Batteries containing mercury  | RA 6             | Button cells  | 100 t/a    |
| 16 06 05  | Other batteries and accumulators  | RA 7             | Lithium batteries                                     | 1,000 t/a  |
| —         | —   | H 1              | Silica sand   | —          |
| —         | —   | H 2              | Vermiculite   | —          |

###### 4.1.2 Total approved capacities/throughput

Input (received) quantities of materials RA 1 to RA 7: 25,200 t/a

Processing of wastes (used batteries): 22,800 t/a  
 thereof non-hazardous wastes: 16,800 t/a  
 hazardous wastes: 6,000 t/a



4.1.3 Approved output materials (materials ready for despatch) and quantities

| <b>AVV No.</b>       | <b>AVV description</b>  | <b>Internal No.</b> | <b>Internal description</b>                   | <b>Quantity</b> |
|----------------------|---|---------------------|---|-----------------|
| 19 12 11*            | Other wastes (including mixed materials) from mechanical waste processing containing hazardous substances | Av 1                | Black mass                                    | 14,000 t/a      |
| 19 12 02             | Ferrous metals  | Av 2                | Scrap iron                                    | 4,000 t/a       |
| 16 06 04<br>16 06 05 | Alkaline batteries<br>Other batteries and accumulators  | Av 3                | Construction site and pasture fence batteries | 500 t/a         |
| 16 06 05             | Other batteries and accumulators  | Av 4                | Lithium primary batteries                     | 580 t/a         |
| 16 06 05             | Other batteries and accumulators  | Av 5                | Lithium-ion batteries                         | 700 t/a         |
| 16 06 02*            | NiCd batteries  | Av 6                | NiCd batteries                                | 600 t/a         |

| <b>AVV No.</b> | <b>AVV description</b>   | <b>Internal No.</b> | <b>Internal description</b> | <b>Quantity</b> |
|----------------|--|---------------------|-----------------------------|-----------------|
| 16 06 03*      | Batteries containing mercury   | Av 7                | Button cells                | 220 t/a         |
| 16 06 01*      | Lead batteries   | Av 8                | Lead batteries              | 1,300 t/a       |
| 19 12 02       | Ferrous metals   | Av 9                | FeNi metal                  | 1,900 t/a       |
| 19 12 12       | Other wastes (including mixed materials) from mechanical waste processing except wastes falling under 19 12 11 | Av 10               | Residual waste              | 50 t/a          |
| 19 12 04       | Plastic and rubber   | Av 11               | Plastic waste               | 100 t/a         |
| 16 02 13*      | Used appliances containing hazardous components except those falling under 16 02 09 and 16 02 12               | Av 12               | Electronic scrap            | 20 t/a          |
| 16 02 09*      | Transformers and condensers containing PCB   | Av 13               | Condensers                  | 10 t/a          |
| 20 01 21*      | Fluorescent lamps and other wastes containing mercury  | Av 14               | Lamps                       | 10 t/a          |
| 15 01 01       | Packaging made of paper and board  | Av 15               | Cardboard boxes             | 50 t/a          |
| 15 01 02       | Packaging made of plastic  | Av 16               | Big bags                    | 100 t/a         |
| 15 01 03       | Packaging made of wood   | Av 17               | Wood                        | 50 t/a          |
| 15 01 06       | mixed packaging  | Av 18               | Industrial waste            | 100 t/a         |
| 15 01 04       | Packaging made of metal  | Av 19               | Scrap                       | 50 t/a          |
| 15 01 02       | Packaging made of plastic  | Av 20               | Plastic waste               | 50 t/a          |
| 19 12 12       | Other waste (including mixed materials) from mechanical waste processing except those                          | AB 21               | non-sortable batteries      | 200 t/a         |

| AVV No.   | AVV description                      | Internal No. | Internal description          | Quantity |
|-----------|--------------------------------------|--------------|-------------------------------|----------|
|           | falling under 19 12 11               |              |                               |          |
| 06 03 15* | Metal oxides containing heavy metals | P 1          | Manganese oxide <sup>1)</sup> | 300 t/a  |
| 06 03 15* |                                      | P 2          | Zinc oxide <sup>1)</sup>      | 250 t/a  |

<sup>1)</sup> Insofar as manganese oxide and zinc oxide are classified as waste, the AVV codes specified herein shall be used. Irrespective thereof, it is required to document the processed quantities in the operating diary or in the register.

#### 4.1.4

Any despatch of manganese oxide and zinc oxide as products is to be documented by delivery notes. These supporting documents are to be kept in safe custody for 3 (three) years and submitted on demand to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1.

#### 4.1.5 Approved storage quantities

| AVV No.  | Internal description  | Storage site TBE | Storage quantity maximum   |
|--|---|------------------|--|
| 16 06 01*  | RA 5, Av 8 - Lead batteries   | 1.1              | 25 t   |
| 16 06 02*  | RA 4, Av 6 - NiCd batteries   | 1.1              | 50 t   |
| 16 06 03*  | RA 2.7, Av 7 - Button cells   | 2.3              | 25 t   |
| 16 06 04<br>16 06 05                                     | RA 1 - Alkaline batteries (except 16 06 03*), zinc-carbon batteries, pasture fence batteries, zinc-carbon mixed batteries | 1.2, 2.3         | 325 t<br>thereof alkaline/zinc-carbon batteries: 300 t,<br>construction site/<br>pasture fence batteries: 25 t |
| 16 06 05   | RA 3 - NiMH batteries   | 1.1              | 100 t  |
| 16 06 05   | RA 7 - Lithium batteries  | 2.1<br>2.3       | 20 t<br>75 t   |
| 20 01 33*<br>20 01 34                                    | RA 2 - Mixed batteries to be sorted   | 1.1              | 100 t  |
| 19 12 11*  | Av 1 - Black mass   | 4.3              | 50 t   |
| 19 12 02   | Av 2 - Scrap iron   | 4.3              | 30 t   |
| 19 12 02   | Av 9 - FeNi metal   | 2.2              | 15 t   |
| 19 12 04   | Av 11 - Plastic waste   | 2.2              | 10 t   |
| 06 03 15*  | P 1 - Manganese oxide <sup>2)</sup>   | 2.4              | 24 t   |
| 06 03 15*  | P 2 - Zinc oxide <sup>2)</sup>  | 2.4              | 24 t   |
| 15 01 01<br>15 01 02<br>15 01 03<br>15 01 04<br>15 01 06 | Av 15, Av 16, Av 17, Av 18, Av 19, Av 20<br>- Packaging   | 1.2, 2.2         | 46 t   |

<sup>2)</sup> Insofar as manganese oxide and zinc oxide are classified as waste, the AVV codes specified herein shall be used.

#### 4.1.6 Total approved storage quantities

|                               |       |
|-------------------------------|-------|
| Temporary storage of wastes:  | 975 t |
| thereof non hazardous wastes: | 770 t |
| hazardous wastes:             | 205 t |

#### 4.1.7

Waste codes may be changed only in justified cases requiring the written consent of the responsible waste authority (Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1). This consent must be given before first receiving or disposing of wastes.

#### 4.1.8

If wastes that have not yet been assessed in the course of approval procedures are produced during the operation of the plant, during cleaning and maintenance works, or when the company is shutdown, they must be notified to the responsible waste authority.

### 4.2 Register

Being the operator of a waste recycling facility, the applicant is obliged to keep a register according to Section 49 (1) KrWG. Such register shall specify any wastes received at the plant according to their quantity, type and origin, and fate.

*Notes:*

The register may be kept as part of the operating diary.

### 4.3 Analyses

The following analyses are to be performed:

| Substance       | Frequency of analyses  | Parameter  |
|-----------------|--|--|
| Black mass      | every 10th outbound freight<br>(at least 20 analyses per year) | <u>Analysis of the original sample:</u> <ul style="list-style-type: none"> <li>• pH value</li> <li>• Humidity</li> <li>• dry residue</li> </ul><br><u>Analysis in relation to dry residue:</u> <ul style="list-style-type: none"> <li>• Carbon</li> <li>• Total chlorine</li> <li>• Total fluorine</li> <li>• Aluminium, calc. as Al<sub>2</sub>O<sub>3</sub></li> <li>• Arsenic</li> <li>• Lead</li> <li>• Cadmium</li> <li>• Calcium, calc. as CaO</li> <li>• Total chromium</li> <li>• Cobalt</li> <li>• Iron, calc. as Fe<sub>2</sub>O<sub>3</sub></li> <li>• Potassium, calc. as K<sub>2</sub>O</li> <li>• Copper</li> <li>• Magnesium, calc. as MgO</li> <li>• Manganese</li> <li>• Manganese, calc. as MnO</li> <li>• Molybdenum</li> </ul> |
| Manganese oxide | every outbound freight<br>(at least 15 analyses per year)      |  |
| Zinc oxide      | every outbound freight<br>(at least 8 analyses per year)       |  |

| Substance | Frequency of analyses | Parameter  |
|-----------|-----------------------|--|
|           |                       | <ul style="list-style-type: none"> <li>• Natrium, calc. as Na<sub>2</sub>O</li> <li>• Nickel</li> <li>• Mercury</li> <li>• Total sulphur</li> <li>• Silicon, calc. as SiO<sub>2</sub></li> <li>• Sulphur, calc. as AO<sub>4</sub></li> <li>• Zinc</li> <li>• Zinc, calc. as ZnO</li> </ul> |

Analyses findings shall be kept in safe custody for a minimum of 5 (five) years and submitted on demand to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1. Furthermore, the findings of each previous year shall be attached to the annual report.

*Notes on procedure providing evidence according to the Ordinance on waste recovery and disposal records (NachweisV):*

The regulations of the Ordinance on waste recovery and disposal records must be observed.

*Notes on the notification:*

The responsible authority for undertaking notification procedures according to Ordinance (EC) No. 1013/2006 shall be the Regional Council of Darmstadt, Darmstadt Division for Occupational Safety and Environment, Department IV/Da 42.1 (waste management - disposal routes).

#### 4.4 Documentation

##### 4.4.1 Company regulations

The plant operator must prepare the company regulations before initial operation to be maintained as required. The company regulations shall include the decisive regulations in relation to corporate safety and order. They regulate the activities and operation of the plant and also apply to its users. They are to be displayed in a clearly visible place in the entrance area.

The company regulations shall at least include the following regulations:

- Business hours, operating times
- Traffic management on site
- Deployment of vehicles, machinery and staff
- Rules of conduct in accordance with applicable accident prevention regulations
- Emergency numbers (fire brigade, police, rescue service)
- Instructions on how to behave in emergency situations, first aid
- Provisions to be taken in the event of special incidents (fire protection, occupational safety)
- Tasks, duties and responsibilities of operating staff
- Specifications in relation to existing information and documentation duties (including record keeping periods)
- Regulations on using vehicles and machines (operating instructions, maintenance procedures)

Employees working at the plant shall be instructed in the provisions of company regulations not later than 1 (one) month after initial operation of the plant. The instruction is to be documented in the operating diary.

##### 4.4.2 Operating diary

The plant operator must keep an operating diary and document therein the operating conditions and plant operation. The operating diary must include all relevant information on daily plant operation, in particular:

- Operating times of plants (sorting, process and waste air plants),
- Data on wastes received, processed and despatched in company units (Notes: there may be references to entries in the register in relation to materials received and despatched)
- Quality assurance findings (e.g. analyses findings),
- Findings of plant-related control analyses and measurements including functional controls (self-monitoring, external monitoring),
- Special incidents such as operational disruptions, including possible causes and corrective measures that were carried out,
- Type and scope of construction and maintenance measures.

The operating diary is to be checked and signed by the operations manager (person in charge) or waste commissioner at least once a week.

*Notes:*

An operating diary may be kept in analogue or electronic form (electronic data processing). It is to be prepared as a secure document and protected against unauthorised access.

#### 4.4.3

The operating diary is to be kept in safe custody at the plant - for at least five years, calculated from the date of each last entry - and presented on demand to the supervisory authorities for review purposes.

#### 4.4.3 Annual report

The data contained in the operating diary and register shall be included in an annual report that is to be prepared by the plant operator.

The annual report shall specify in tabular form the quantities of input and output (received and despatched) wastes, including discarded interfering substances and wastes referred to other disposal routes, separated according to type (waste description, waste code under AVV), quantity, origin and fate.

The findings of analyses carried out in the previous year shall be attached.

Any output (products ready for despatch) (date, quantity, recipient) of manganese oxide and zinc oxide products in the previous year must be specified by providing appropriate supporting documents.

The annual report is to be submitted to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1, not later than 3 (three) months after the end of each calendar year without being asked to do so.

## **5. Immission control**

### **5.1 Air quality control**

#### **5.1.1 Emission threshold values**

In relation to Sources E1 and E2, the emission threshold values are determined as follows:

| <b>Substance/parameter</b>  | <b>Threshold values</b>            |                                    |
|---|------------------------------------|------------------------------------|
|   | <b>Source E1</b>                   | <b>Source E2</b>                   |
| <b>Mercury and its compounds</b><br>(5.2.2 Class I TI Air)          | 0.03 mg/m <sup>3</sup><br>2.5 g/h  | 0.03 mg/m <sup>3</sup><br>2.5 g/h  |
| <b>Cadmium and its compounds</b><br>(5.2.7.1.1 TI Air)              | 0.03 mg/m <sup>3</sup><br>0.15 g/h | 0.03 mg/m <sup>3</sup><br>0.15 g/h |
| <b>Nickel, lead and its compounds</b><br>(5.2.2 Class II TI Air)    | 0.03 mg/m <sup>3</sup><br>2.5 g/h  | 0.03 mg/m <sup>3</sup><br>2.5 g/h  |
| <b>Chromium, copper, manganese, tin</b><br>(5.2.2 Class III TI Air) | 1 mg/m <sup>3</sup><br>5 g/h       | 1 mg/m <sup>3</sup><br>5 g/h       |
| <b>Total dust</b>   | 10 mg/m <sup>3</sup><br>0.2 kg/h   | 10 mg/m <sup>3</sup><br>0.2 kg/h   |

##### 5.1.1.1

Irrespective of these requirements, the mass concentration for coinciding substances under No. 5.2.2 TI Air of Classes I and II may not exceed a total of 0.5 mg/m<sup>3</sup> in waste gas, and the mass concentration for coinciding substances of Classes I and III or Classes II and III may not exceed a total of 1 mg/m<sup>3</sup> in waste gas.

##### 5.1.1.2

Air quantities that are supplied to facility of the plant in order to reduce or cool waste gas are not be taken into account when determining the mass concentration.

##### 5.1.1.3

The threshold values relate to the volume of waste gas in its standard state (273.15 K, 101.3 kPa) after deducting the moisture content of water vapour, and to a volume content of oxygen in waste gas of 5 percent.

#### **5.1.2 Initial and recurring measurements**

##### 5.1.2.1

In order to determine if the emission threshold values specified in the notice under Clause 5.1.1 (mass concentration, mass flow) are complied with, an agency announced under Section 29b BImSchG must be commissioned to carry out measurements not sooner than three months and not later than six months after initial operation of the plant.

##### 5.1.2.2

Simultaneously to measuring emissions, any operating parameters such as temperature, waste gas temperature, waste gas volume flow, waste gas moisture content and oxygen content that are required to evaluate emission values are to be measured and recorded continuously.

##### 5.1.2.3

The measurements are to be carried out during the intended operation of the plant (full load).

#### 5.1.2.4

Based on operating conditions that predominantly remain *constant* over time, it is required to carry out at least 3 (three) individual measurements in an undisturbed operation mode with highest emission levels, and at least one other measurement each in regularly occurring operating conditions with inconsistent emission patterns, e.g. during cleaning or regeneration works, or during start and stop operations.

#### 5.1.2.5

Any individual measurement shall take half an hour. Deviations are to be coordinated with the responsible authority.

#### 5.1.2.6

The measurements according to incidental provision 5.1.2.1 shall be repeated each at intervals of 3 years.

#### 5.1.2.7

The measured emission values may be converted to the reference oxygen content only in relation to those periods during which the measured oxygen content exceeds the reference oxygen content.

#### 5.1.2.8

Individual measurement results are to be determined and specified as half-hour average.

#### 5.1.2.9

In order to carry out measurements as specified in the notice under Clause 5.1.2.1, it is necessary to provide the required measuring stations and measuring sections according to No. 5.3.1 TI Air.

These must be designed to ensure representative, faultless (measurement-wise) and hazard-free emission measurements. The provisions of Directive DIN EN 15259 (air quality - measuring emissions generated by stationary sources - requirements of measuring sections and measuring stations, and requirements of the measuring task, measuring plan and measuring report) must be observed.

#### 5.1.2.10

For this purpose, the measuring stations must have an adequate size, be load bearing, weather protected, hazard-free and easily accessible. Necessary supply lines are to be installed.

#### 5.1.2.11

The location of measuring stations and measuring sections, and the establishment of measuring stations is to be coordinated in time with the commissioned measuring authority, if necessary by providing drawings. In so doing, the responsible supervisory authority (Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1) is to be involved.

#### 5.1.2.12

According to specifications of the commissioned measuring authority, the measuring stations are to be equipped with necessary supply lines (electrical connections, fused, in sufficient numbers, cooling water supply if necessary, etc.).

Any relevant information and documents are to be made available to the commissioned measuring authority in order to properly assess emissions.

#### 5.1.2.13

Insofar as required, extra staff and equipment is to be provided when carrying out measurements.

#### 5.1.2.14 Measurement plan

The commissioned measuring authority shall prepare a detailed measurement plan before starting to carry out emission measurements (for a sample measurement plan according to Appendix B3 of DIN EN 15259, refer to



[http://www.hlnug.de/fileadmin/dokumente/luft/emisskassel/AnlageB3aus15259\\_Mustermessplan.pdf](http://www.hlnug.de/fileadmin/dokumente/luft/emisskassel/AnlageB3aus15259_Mustermessplan.pdf)).

This plan must contain information on sampling locations to be chosen, type and scope of emission measurements, number of individual measurements, sampling equipment, sampling and evaluation procedures, specifications of applied measuring equipment, any occurrence of emissions and each measurement performance in relation to time, and information on the type and scope of reporting.

It must be ensured that the measuring authority shall coordinate the measuring plan and measuring date in good time, not later than fourteen days before starting to carry out any measurements, with the Hessian Regional Office for nature protection, environment and geology (Hessisches Landesamt für Naturschutz, Umwelt und Geologie /HLNUG) and the responsible supervisory authority.

#### 5.1.2.15

The measuring plan shall provide information on the operating condition of the plant in relation to the approved capacity.

#### 5.1.2.1 Measurement report

The results of emission measurements are to be compiled immediately in a measurement report that complies with the appropriate Appendix of VDI guideline No. 4220 (5.3.2.4 TI Air).

For the purpose of preparing the measuring report, the operator shall commit the measuring authority to use the sample measuring report that is provided by the Hessian Regional Office for nature protection, environment and geology (<http://www.hlnug.de/themen/luft/emissionsueberwachung/pruefung-von-emissionsmessungen.html>: [Muster-Emissionsmessbericht](#)).

#### 5.1.2.17

The operator shall commit the measuring authority to present on demand within the stipulated record keeping period any original measurement protocols and laboratory assessments to the supervisory authority and HLNUG, Ludwig-Mond-Strasse 33, 34121 Kassel.

#### 5.1.2.18

The measuring authority shall undertake to immediately send two copies of the measuring report directly to the responsible supervisory authority.

#### 5.1.2.19

Depending on the results of the measurements, the approving /supervising authority reserves the right to issue appropriate subsequent instructions that may require a continuous assessment of emissions generated by the plant using recording measuring equipment according to Section 29 BImSchG in conjunction with No. 5.3.3 TI Air (continuous measurements).

### **5.1.3 Discharge conditions**

#### 5.1.3.1

The Source heights are determined as follows:

Source E1: 12 m above site

Source E2: 6 m above site

#### 5.1.3.2

Any discharge of waste gas from emission Sources E1 and E2 is to be designed in such a way that a discharge velocity of at least 7 m/s in a vertically upward direction is reached.

#### 5.1.3.3

The entire waste air purification plant technology must comply with specifications in the application documents. Deviations are to be coordinated with and notified in advance to the Regional Council of

Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1.

#### **5.1.4 Diffuse Emissions**

##### 5.1.4.1

Any machinery and parts of the plant that are expected to release dust, and the bunker for cooling black mass are to be constructed comprising the appropriate coverage or enclosure - as described in the application documents.

##### 5.1.4.2

The area of loading black mass is to be separated from sorting plants by means of a flexible black curtain in order to avoid cross-contamination with diffuse dust emissions within the warehouse.

##### 5.1.4.3

Goods producing dust may be stored exclusively in bunkers or other closed containers. Any dump storage outside is not permitted.

##### 5.1.4.4

Black mass may only be loaded in the warehouse directly in front of the cooling bunkers. While loading black mass, the main waste air volume flow is to be switched onto the appropriate discharge bunker.

##### 5.1.4.5

The outdoor driveways are to be cleaned regularly using a road sweeper, if necessary, to avoid visible dust drift.

##### 5.1.4.6

Diffuse dust discharge from inside warehouse areas is to be avoided. Warehouse gates may only be opened for transportation purposes, and goods producing dust may only be stored and transported in closed containers, and warehouse floors are to be cleaned regularly.

#### **5.1.5 Maintenance**

##### 5.1.5.1

Waste air purification plants - particularly the activated carbon filters - are to be maintained at least once a week and in good time (before reaching filter capacity).

Any failures, interruptions, maintenance services and repairs to waste air purification plants are to be recorded (activity, duration, start, end). Such records shall be kept in safe custody for at least 5 (five) years.

##### 5.1.5.2

Production processes that cause the emission of air pollutants may not be started if associated waste air purification plants fail.

In the event of failures of waste air purification plants during operation, the associated production processes must be terminated or interrupted immediately. Any employees shall be instructed accordingly.

##### 5.1.5.3

In the event of any failure of the dust removal plant 6.0, waste air of filter systems 6.5 and 6.6 may be supplied directly to the activated carbon filter 6.2. The duration of such "bypass operation" is to be kept as short as possible and documented in the operating diary.

## **5.2. Noise protection, emissions of light**

### 5.2.1

The noise immission prognosis of DEKRA Automobil GmbH of 9 January 2015, report no.: 21486/A26695/553004312-B01, on expected noise pollution caused by the plant for storing and processing used batteries during daytime and nighttime in the neighbourhood is an integral part of this approval.

### 5.2.2

The basic values specified or set in the aforementioned noise immission prognosis of 9 January 2015, such as noise power levels, operating conditions, noise absorbing rates, etc., and the rating levels assessed by measuring such levels at specific immission points (IP1 to IP7) during daytime and nighttime according to table 1, page 4, and the peak levels during daytime and nighttime according to table 2, page 4, are to be implemented and complied with.

#### *Notes:*

In the event of deviations, evidence must be provided that rating levels as assessed and set are still complied with at the appropriate immission points (IP1 to IP7).

### 5.2.3.

The noise protection measures and boundary conditions proposed in the noise immission prognosis under Point 10, pages 19-20, are to be implemented and complied with.

#### *Notes:*

In the event of deviations, evidence must be provided that the assessed and set rating levels are still complied with at the appropriate immission points (IP1 to IP7).

### 5.2.4

Goods may be received and despatched during daytime only, i.e. between 6 a.m. and 10 p.m.

#### *Notes:*

In the active area of the plant for storing and processing used batteries, the following guide values of noise immission are admissible as overall pollution relating to all industrial plants and companies that may have an impact:

- |    |  |          |
|----|--|----------|
| a) | at nearest areas requiring protection in industrial areas (GI), IP5  |          |
|    | daytime (6 a.m. to 10 p.m.)  | 70 dB(A) |
|    | nighttime (10 p.m. to 6 p.m.)  | 70 dB(A) |
| b) | at nearest areas requiring protection in business parks (GE) IP1- P4 |          |
|    | daytime (6 a.m. to 10 p.m.)  | 65 dB(A) |
|    | nighttime (10 p.m. to 6 p.m.)  | 50 dB(A) |
| c) | at nearest residential areas in mixed areas (MI), IP7                |          |
|    | daytime (6 a.m. to 10 p.m.)  | 60 dB(A) |
|    | nighttime (10 p.m. to 6 p.m.)  | 45 dB(A) |
| d) | at nearest residential areas in common residential areas (WA), IP6   |          |
|    | daytime (6 a.m. to 10 p.m.)  | 55 dB(A) |
|    | nighttime (10 p.m. to 6 p.m.)  | 40 dB(A) |

These stipulated levels comply with specifications in the effective development plan or according to actual utilisation.

### **5.3 Emissions of light**

#### 5.3.1

The vertical light intensity caused by lighting systems may at window level of the nearest dwellings in rooms used for human habitation not exceed the following levels:

a) in business parks (GE), industrial areas (GI)

|                  |       |
|------------------|-------|
| during daytime   | 15 lx |
| during nighttime | 5 lx  |

b) in mixed areas (MI)

|                  |      |
|------------------|------|
| during daytime   | 5 lx |
| during nighttime | 1 lx |

c) in common residential areas (WA)

|                  |      |
|------------------|------|
| during daytime   | 3 lx |
| during nighttime | 1 lx |

Daytime means dark hours between 6 a.m. and 10 p.m., nighttime means dark hours between 10 p.m. and 6 a.m.

#### 5.3.2

Lighting systems are to be installed and operated in such a manner that any lighting is restricted to selected areas only. A direct view of light sources from neighbouring dwellings is to be avoided by observing appropriate light spot heights, tilt angles of lights, reflectors, light shades, etc.

### **6. Requirements under accident or hazardous incident legislature, and plant security**

#### 6.1

Before initial operation, a concept shall be submitted specifying how to determine maximum hold-up (storage quantity, provision quantity and production stage quantity) of individual hazardous incident substances (black mass, manganese oxide, zinc oxide, comminution mixtures containing nickel hydroxide - including precomminuted NiMH), and coordinated with the Regional Council of Darmstadt, Division for Occupational Safety and Environment, Department IV/F 42.1.

The procedure to be undertaken in the event of reaching the approved hold-up quantity limit shall be described therein.

#### *Notes:*

The regulations of Sections 3 to 8 of the 12th BlmSchV (hazardous incident ordinance) - in particular on preparing a concept to prevent hazardous incidents according to Section 8 - must be observed.

#### 6.2

Before initial operation, a concept shall be submitted specifying how to store comminution mixtures containing nickel hydroxide (including precomminuted NiMH), and coordinated with the Regional Council of Darmstadt, Division for Occupational Safety and Environment, Department IV/F 42.1.

#### 6.3

Before initial operation, the fire protection concept shall be amended to include comminution mixtures containing nickel hydroxide (including precomminuted NiMH), and coordinated with the fire brigade of Offenbach, department of preventive fire and hazard protection (Vorbeugender Brand- und Gefahrenschutz), Rhoenstr. 10, 63071 Offenbach.

#### 6.4

Before initial operation, the description of how to handle substances hazardous to water shall be amended to include comminution mixtures containing nickel hydroxide.

6.5

Used batteries/mixed batteries may only be delivered to the plant after prior notification of the date, and after prior review of stock levels and sorting plant capacity.

6.6

Batteries and mixed batteries received are to be checked for possible damages and heat generated thereof using a thermal imaging camera.

6.7

In the event of detecting a heat source, the respective package must immediately be stored in a steel container and transported to the safe storage area (TBE 2.1). Further provisions shall be initiated accordingly.

6.8

The safe storage area must at all times provide a safe storage container (LiBaCon) that is approved as a storage container for Class 9 hazardous substances to store lithium batteries.

6.9

Risk prone high energy batteries must be sorted from mixed batteries and stored in approved transportation containers immediately upon receipt. These are to be filled with kiln-dried, fine-grained sand or any other approved material.

6.10

Received mixed batteries must generally be transferred to collection containers and sorted immediately upon receipt. Any previous temporary storage is - after sorting out high energy batteries - permitted for a short time in the warehouse (Warehouse 2) by exception only.

6.11

Lithium batteries that are sorted in the area of sorting mixed batteries must also be transferred to barrels to be filled with sand or any other approved material.

6.12

Lithium batteries may not be damaged, comminuted or shredded.  
This shall be regulated in an operating instruction and notified to the employees.

6.13

In relation to used batteries that fall under the dangerous goods law, only approved packages may be used.

6.14

Packages containing used batteries with hazard potential shall be stored in the external storage area (TBE 2.3).

6.15

It is not permitted to store combustible substances - except used batteries - in the external storage area (TBE 2.3).

6.16

All packages must, insofar as filled, be labelled to enable identification of their content at all times.

6.17

All employees are to be trained to handle (used) batteries and notified in the event of changes. Appropriate training to handle hazardous situations and fire-fighting equipment is to be conducted regularly. Any training and instruction is to be documented by signature of the individual employees.

6.18

In the event of battery short circuit or incipient fire, containers filled with sand shall be provided at all relevant locations in the production/sorting area.

6.19

Smoking is strictly prohibited on the entire company site - except in designated smoking areas.

6.20

The hydrogen content of the atmosphere of the cross-flow shredder QZ (TBE 5.1) is to be monitored continuously.

If the lower explosion limit (UEG) for hydrogen is exceeded by 10 %, an optical alarm must be triggered. The signal light must be installed clearly visible and may not be covered.

If the lower explosion limit (UEG) for hydrogen is exceeded by 20 %, the plant must automatically shut down. The process of feeding material to the cross-flow shredder must also be interrupted.

6.21

Any equipment for measuring the hydrogen content in the cross-flow shredder is to be inspected at least once a week. Such inspections and possible maintenance/repair works are to be documented in the operating diary.

Any measuring equipment is to be calibrated regularly, at least once a year. The findings shall be documented and submitted on demand to the supervisory authority.

6.22

Interruptions of the intended operation (e.g. heat sources detected in packages, the use of LiBaCon, waste air plant failure, cross-flow shredder alarm/shut down, etc.) are to be documented in the operating diary.

## **7. Chemicals law**

The exception from compulsory registration according to REACH applies only to the operational process as applied for, and to the substances recycled in the process as applied for. In the event of introducing further substances, the conformity with REACH must be reviewed and verified.

## **8. Construction supervisory and fire prevention requirements**

8.1

The constructor is required to assign the duties of supervising the construction to a competent person according to Section 73 (2) HBO, and provide a written notification thereof to the construction supervision authority of the City of Offenbach (Bauaufsicht der Stadt Offenbach, Berliner Str. 60, 63065 Offenbach), and the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1, at least 1 (one) week before starting construction using the form "notification to start construction" ("Baubeginnsanzeige") - insofar as this has not yet been done in the course of a premature start of construction works.

8.2

The submitted fire protection concept, prepared by DEKRA Automobil GmbH on 25 February 2016, is an integral part of this approval. The specified provisions must be observed as conditions. If there is no conformity between the integral parts of the approval, the specifications of the fire protection concept shall be mandatory with regard to fire protection.

8.3

The construction project is to be monitored by the person or authority preparing the fire protection concept or another fire protection expert. The fire protection expert shall prepare a faultless test report on

the construction conformity with the submitted plan and on the functionality of the structural and operational hazard prevention concept (fire protection concept) that shall be submitted to the fire brigade of Offenbach before initial operation.

In the event of subsequent changes of the construction or utilisation concept, the fire safety concept must be reviewed.

#### 8.4

After completion of construction work, the constructor shall submit to the construction supervision authority of the City of Offenbach (Bauaufsicht, Berliner Str. 60, 63065 Offenbach) without being asked to do so *at least 2 (two) weeks before completion* of the construction work a confirmation using the form "notification of final completion" ("Anzeige der abschließenden Fertigstellung") in which the commissioned person in charge of supervising the construction shall ensure that the construction project was carried out in accordance with the building permit, that all requirements included therein were fulfilled, and that all regulations of the Hessian building regulations (HBO) were complied with.

#### 8.5 Fire brigade inspection certificate

Once the conformity certificate was submitted by the construction supervision expert, the fire brigade of Offenbach shall perform an inspection process. In so doing, random tests of an implementation of the fire protection concept and the execution of construction work are performed, and possible incidental provisions requiring the approval of the fire brigade of Offenbach are to be reviewed in terms of their implementation.

#### 8.6

According to Section 44 HBO in conjunction with parking space statutes of the City of Offenbach a.M. of 2 October 2013, parking spaces shall be provided for 17 bicycles according to specifications in the planning documents in relation to expected *bicycles* of permanent users of the buildings and structures and visitors thereof. The parking spaces shall be made available not later than the date of initial operation of the buildings and structures, and shall then be maintained permanently.

#### 8.7

According to Section 44 HBO in conjunction with parking space statutes of the City of Offenbach a.M. of 2 October 2013, parking spaces shall be provided for 18 motor vehicles according to specifications in the planning documents in relation to expected *motor vehicles* of permanent users of the buildings and structures and visitors thereof. The parking spaces shall be made available not later than the date of initial operation of the buildings and structures.

#### Notes:

Before starting construction work, an appointment is to be made with ESO GmbH, dept. road maintenance (Abt. Strassenunterhaltung, Mister Kosanke, Tel.: 069 / 8065 - 3432 or Mobile: 0151 / 16119993) in relation to recording conditions of pavements and roads in front of the building site.

## **9. Planning law**

### 9.1

The descriptions of storage areas east of Warehouse 2 in Chapter 18 of the application documents are binding according to planning regulations (in particular the layout plan EG, outdoor facilities).

### 9.2

An exemption, as applied for, with regard to constructing buildings and structures outside the construction period may only be granted if the weigh station is formally dismantled.

### 9.3

The initial operation shall be subject to the *condition* that obligatory evidence is provided of the registration

of obligation to construct and maintain *not later than 14 (fourteen) days before initial operation* to the city council, urban planning, traffic and construction management, department of urban development and planning (Stadtverwaltung Offenbach, Stadtplanung, Verkehrs-und Baumanagement, Bereich Stadtentwicklung und Städtebau, Berliner Straße 60, 63065 Offenbach).

## **10. Water management requirements**

### 10.1

The lithium batteries and button cells to be stored in outdoor areas are to be kept in *sealed* plastic barrels in a chemical resistant area (no composite paving stones).

### 10.2

The base plate of Warehouse 1 must be impermeable and chemical resistant.

### 10.3

Evidence must be provided of the suitability of the aforementioned areas by an authorised expert *fourteen days before initial operation* and submitted to the lower water authority, city council, office for environment, energy and climate protection (Untere Wasserbehörde, Stadtverwaltung Offenbach, Amt für Umwelt, Energie und Klimaschutz, Berliner Strasse 60, 63065 Offenbach).

### 10.4

The batteries may only be stored in packaging, and each packaging must be resistant against (possibly leaking) battery substances.

## **11. Requirements under soil protection law**

### 11.1

When constructing foundations or performing other groundworks as part of the construction project, attention must be paid to visual or smelly abnormalities in the ground. When performing groundworks within the area of a former facility petrol station, the constructor is advised, considering the planned utilisation, to commission an expert to supervise groundworks. If, in so doing, there are indications of pollutant-related harmful soil changes, the responsible upper soil protection authority (Obere Bodenschutzbehörde), Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1, must be informed immediately thereof. Provisions that may obstruct any procedures of identifying facts and circumstances or any restructuring shall be abandoned according to Section 4 (2) HAltBodSchG until released by the soil protection authority. For the purpose of assessing harmful soil changes, the provisions of BBodSchV are decisive.

### 11.2

Before initial operation of the planned facility for processing used batteries, a report on pretreatment conditions must be prepared and submitted (see incidental provisions under VI. No. 3 report on pretreatment conditions).

#### *Notes:*

##### 1.

The area specified in the application for construction permit shall be entered as a pre-existing location, AF No. 413.000.041-001.042, status "address/location verified", in the pre-existing areas file (Altflächendatei) of the Hessian state office for nature protection, environment and geology (Hessische Landesamt für Naturschutz, Umwelt und Geologie) that records pre-existing dump, pre-existing locations, contaminated sites, harmful soil changes and damaging events in relation to groundwater. The previous user is specified as a wholesale of iron scrap, industrial scrap, metal and tube products, and scrap processing.



2.

The planned utilisation or development on sites containing harmful soil changes can be affected considerably, if applicable. The constructor is therefore advised to assess any accessible information on the site in this regard (e.g. letters of enquiries to the appropriate municipality or council). If, in so doing, there are indications of harmful soil changes, the responsible upper soil protection authority (Obere Bodenschutzbehörde), Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1, must be informed thereof according to Section 4 (1) of the Hessian law on contaminated sites and soil protection (HAItBodSchG), and any further procedure must be coordinated with that authority.

## **12. Requirements under occupational safety law**

12.1

In the course of conducting a risk assessment according to Section 6 of the ordinance on hazardous substances (GefStoffV), as an integral part of the risk assessment according to Section 5 of the occupational safety law, it is to be determined if the employees conduct activities with hazardous substances, or if hazardous substances are generated or released when conducting activities.

The risk assessment is to be documented before starting the activity (initial operation of the plant).

12.2

*Before initial operation*, a copy of the risk assessment documentation relating to operating unit TBE 4.5 - pretreatment plant NiMH, Shredder, is to be sent to the Regional Council of Darmstadt, Division for Occupational Safety and Environment, Department IV/F 45.1.

When assessing the risk, it must particularly be determined if substances, mixtures and products used for activities may present a fire or explosion hazard, also taking into account used work equipment, processes and work environments and their possible interactions.

A risk from hazardous explosive mixtures is to be identified in particular (explosion damage protection document). Such document must specifically indicate

- that explosion hazards were determined and subjected to an assessment,
- that appropriate precautions were taken to meet the targets of explosion damage protection (presenting an explosion damage protection concept),
- if and what areas were classified in zones according to Appendix I No. 1.7 of the ordinance on hazardous substances,
- for what areas explosion damage protection measures were taken according to Section 11 GefStoffV and Appendix I No. 1,
- how the regulations according to Section 15 GefStoffV are implemented, and
- what reviews are to be undertaken according to Section 7 (7) GefStoffV, and what tests are to be conducted in relation to explosion damage protection according to Appendix 2 Chapter 3 of the occupational safety ordinance (BetrSichV).

12.3

A workplace assessment is to be conducted 6 (six) months after commencing operation (initial operation) in relation to exposure to cadmium, mercury and nickel compounds to provide evidence of compliance with workplace limit values according to Section 7 (8) GefStoffV. The findings of the workplace assessment are to be sent to the Regional Council of Darmstadt, Division for Occupational Safety and Environment, Department IV/F 45.1, *immediately upon completion*.

12.4

Operating instructions must be prepared for all work equipment and plants according to Section 12 (2) BetrSichV.

12.5

If the safety of work equipment depends on assembly conditions, it is to be tested before initial use by a person qualified for conducting tests. Such test comprises the control of the assembly or installation according to regulations, the safe operation of such work equipment, the assessment of damages in good time, and the assessment if implemented precautions are effective.

Type, scope and result of the test are to be documented. The documentation is to be submitted *on demand* to the Regional Council of Darmstadt, Division for Occupational Safety and Environment, Department 45.1.

### **13. Demands on health protection**

The installation of potable water in the administrative building is to be carried out in accordance with generally accepted technical rules and standards pursuant to Section 17 TrinkwV (2001).

The installation in accordance with regulations is to be coordinated with the municipal public health department of the municipal council of the City of Offenbach (Stadtverwaltung Offenbach, Stadtgesundheitsamt, Berliner Strasse 60, 63065 Offenbach).

### **14. Deutsche Bahn (German Rail)**

#### 14.1 Distance spaces

Distance spaces according to HBO and other provisions pursuant to building and environments regulations must be observed.

#### 14.2 Construction work

When undertaking construction work near tracks, the statutory accident insurance publications GUV-V A1, GUV-V A3, GUV-V D6, GUV-V D30.1, GUV-V D33, GUV-R 2150, DV462, and DB (German Rail) guidelines 132.0118, 132.0123 must be observed. These publications may be downloaded e.g. from the website of the professional association of trade and goods logistics (BGHW Berufsgenossenschaft Handel und Warenlogistik) (<https://www.bghw.de/arbeitschuertzer/regelwerk-und-praeventionsmedien-der-bghw/regelwerk/bg-vorschriften-bg-grundsaeetze-bg-regeln-und-bg-informationen>).

Stability and operational reliability of railway sites (in particular embankment, wiring systems, signals, trolley wire masts, tracks, etc.) must be ensured at all times.

Railway services must neither be obstructed nor jeopardised.

Construction work is generally to be carried out outside the pressure range of railway traffic loads.

No excavation/ramming works may be carried out within the area of signals, trolley wire masts and tracks. Building plots near tracks are to be secured such that construction vehicles, people, materials or equipment may not accidentally enter the risk area. While performing work, it must be ensured in any case that the risk area (defined in GUV VD 33 Appendix 2) of tracks and airspace must remain untouched by the construction work.

Building materials, building waste, etc. may not be stored on railway sites temporarily or permanently.

#### 14.3 Enclosure

The constructor is required to enclose his site in the interest of public security and also in the interest of persons and vehicles visiting his site regularly, and the enclosure shall be such that there may be no intentional or unintentional access to railway sites, or that access to the risk area of railway sites is prevented otherwise.

The constructor or his legal successors shall maintain the enclosure continuously, and replace it if applicable. All costs incurred shall be borne by the constructor or his legal successors.

#### 14.4 Parking spaces facing the railway

Parking spaces and access must be secured with safety barriers or the like along the entire length of the side of the railway to prevent accidental movement towards the railway site in any case. The safety device is to be maintained continuously, and replaced if applicable, by the constructor or his legal successors.

#### 14.5 Planning of light signals and lighting systems

When planning light signals and lighting systems (e.g. construction site lighting, parking space lighting, all types of illuminated advertising, etc.) near tracks or level crossings, etc., the constructor must ensure that train drivers are not blinded by the light, and that falsification, coverage and pretence of signal aspects may not occur.

#### 14.6 Cultivation of sites alongside rails

Any new cultivation in adjacent areas of railway sites, particularly alongside tracks, must comply with the requirements of railway service security. The DB guideline (Ril) 882 "Manual on landscape planning and vegetation control" ("Handbuch Landschaftsplanung und Vegetationskontrolle") must be observed in relation to average planting distances. The planting distance to railway sites is to be chosen based on final growth heights.

*Notes on DB guideline 882:*

1.

When cultivating areas along railway lines, the following general conditions shall apply:

Minimum distances to the track centre of the outer track: 8 m for small and medium size shrubs, 10 m for tall growing shrubs, and 12 m for trees. Planting of suitable trees and shrubs only, as described in modules 882.0331 and 882.0333A01. When cultivating areas facing the railway site, it is prohibited to use wood that can be uprooted when exposed to wind (e.g. poplars), or wildly climbing and creeping plants (e.g. blackberries).

Guidelines required for planning can be obtained from the following agency:

DB Kommunikationstechnik GmbH, Medien- und Kommunikationsdienste, Informationslogistik, Kriegsstrasse 136, 76133 Karlsruhe, Tel.: 0721-938-5965, Fax: 0721-938-5509, E-Mail:

[dzdbesteHservice@deutschebahn.com](mailto:dzdbesteHservice@deutschebahn.com).

2.

Distances and types of plantings are to be chosen such that they may not fall onto the tracks in the event of strong winds, for example. Such distances are to be ensured by taking appropriate measures (e.g. pruning).

3.

If existing planting may impair railway services and traffic safety, these must be adapted accordingly or removed. In the event of imminent danger, Deutsche Bahn reserves the right to prune or remove any planting at the owner's expense. Any relevant new planting in close proximity to railway sites is to be excluded from the outset.

#### 14.7 Trolley wire

The sites are located in close proximity to a trolley wire system. It is hereby explicitly referred to the dangers of trolley wires carrying high voltage of 15,000 V, and to applicable provisions to be complied with in this regard.

When undertaking construction work near trolley wires / trolley wire systems, the statutory accident insurance publications GUV-V A3, GUV-V D32 und DV 462 must be observed.

#### 14.8 Using building cranes and construction tools

When construction work is performed using construction/lifting equipment (e.g. (mobile) cranes, excavating machines, etc.) it is prohibited to rotate above or overswing railway tracks or railway sites with attached loads or suspended hooks. Compliance with these conditions must be ensured by installing an overswing boundary (TÜV/technical inspection association approved). All costs incurred shall be borne by the applicant or his legal successors.

#### 14.9 Roof and surface run-off water and other waste-water

Roof and surface run-off water and other waste-water may not be drained on or above railway ground. It is to be drained correctly into public sewage systems. Drainage into the ground near tracks is unacceptable. Drain conditions may not be altered by construction measures, building materials, excavations, etc.

#### 14.10 Unlawful access to railway sites is prohibited.

Any unlawful access to railway sites, driving on railway sites, and otherwise accessing the risk area of railway sites is not allowed according to Section 62 of the Railway construction and operating ordinance (Eisenbahn-Bau- und Betriebsordnung /EBO) and must be ruled out generally and permanently by suitable and effective provisions. This shall also apply during the construction period.

#### *Notes:*

It is hereby referred to Section 64 EBO that prohibits damaging or polluting railway sites, operating equipment or vehicles, illegally opening barriers or other safeguarding arrangements, obstructing traffic, or undertaking other activities that may disturb or jeopardise the operation.

#### *Notes on immissions:*

1.

Operating railway services and maintaining railway sites causes emissions (particularly air-borne and structure-borne noise, waste gas, flying sparks, material abraded from e.g. brake dust, electric interactions by magnetic fields, etc.) that may lead to immissions at adjacent developments.

2.

Any effects on monitors, medical examination devices and other equipment that is sensitive to magnetic fields are to be expected in close proximity to electrified railway lines or railway power lines. The constructor is obliged to take appropriate precautions.

3.

The constructor or community shall provide or take precautions at their own expense, if required, against emissions caused by railway services.

*Notes on liability of the planning agency:*

The planning agency/constructor shall be liable within the meaning of statutory conditions, in its entirety if applicable, for damages caused to Deutsche Bahn AG due to the construction project.

**15. Security deposit**

The applicant shall provide an unlimited security deposit amounting to € 189,860.00 not later than two months after this notice has become non-appealable.

The security is to be provided

in the form of a written and directly enforceable guarantee payable on first demand furnished by a major bank or savings bank,

or

by bank transfer to the account of Hessisches Competence Center (HCC), account number 100 58 75, at the Landesbank Hessen-Thüringen (Helaba), bank code 500 500 00, indicating the file reference of this notice, impersonal account no. **2812000000** and reference number **42105371600xxx** (if selecting this option, please contact the signatory beforehand), or

by depositing a savings-bank book or other bond with the Regional Council of Darmstadt, or

by depositing the amount into another separate account of the applicant to which the applicant has no access up to the amount of the required security deposit (particularly by garnishing the balance claim to the benefit of the state).

Any change of the factual and legal situation that is relevant for providing the security deposit shall be subject to subsequent claims.

In the event of a change of operator, the responsible approving authority (Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 42.1) shall be notified immediately. The requirement to provide a security deposit shall apply to the new operator on the understanding that the certificate in relation to providing a security deposit must be submitted to the responsible approving authority not later than one month after announcing the change of operator.

## **16. Measures after cessation of business**

### 16.1 Emptying installations

If it is intended to shut down the recycling plant, any plants and machinery are to be emptied completely and treated such that they may be opened and dismantled safely.

### 16.2 Disposing of remaining stock

Any existing input and output material is to be referred to economic use.

Wastes are to be recycled primarily and - insofar as this is not possible or disproportionate - disposed of in a correct and harmless manner. In so doing, the incidental provisions of Chapter VI. No. 4 must be observed.

### 16.3 Continued operation

In the event of a cessation of business it must be ensured that plants or parts of the plant being necessary to correctly suspend operation and to correctly and harmlessly recycle wastes are continued to be operated as long as required to comply with liabilities according to Section 5 (3) BImSchG (e.g. generating plants, air quality control systems, fire protection installations).

### 16.4 Continued employment

In the event of a cessation of business it must be ensured that competent and qualified employees remain to be employed as long as required to correctly comply with the liabilities according to Section 5 (3) BImSchG.

### 16.5 Denying access

Even after cessation of business, the company site is to be secured against unauthorised entry until any processing plants and input/output materials are fully disposed of and the company site is free from hazards.

### 16.6 Subsurface examination

After shutdown, a report on final conditions of soil and groundwater is to be prepared and coordinated with the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1.

The subsurface condition is to be assessed by examinations.

In so doing, an expert qualified in matters concerning contaminated sites must prepare an examination concept and submit it for approval to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1.

The scope of examination parameters is based on conclusions of the report on pretreatment conditions (AZB), existing examination results and the planned subsequent utilisation, if applicable.

### 16.7 Return obligation for IED plants

After cessation of operation of the plant, the condition of soil and groundwater is, insofar as this is proportionate, to be returned to its original state according to Section 5 (4) BImSchG.

In the event of a considerable pollution, the condition shall be returned to such condition as specified in the report on pretreatment conditions within a period to be coordinated with the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1.

### 16.8 Examination terms

The findings of subsurface examinations are to be submitted to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1, to assess and coordinate further procedures.

No reconstruction work may be done without prior agreement of the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1. For this purpose, a reconstruction concept pursuant to Appendix 3 of the Federal soil protection ordinance (BBodSchV) is to be submitted in good time to the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, Department IV/F 41.1.

Notwithstanding this, the plants are to be operated such that contaminations do not occur. If contaminations (e.g. in damaging events) occur despite implementing all safety precautions, these are to be eliminated immediately.

## **VII. Grounds**

### Legal foundations

This notice is issued based on Section 4 of the Federal immission control act (BlmSchG) in conjunction with Numbers 8.11.2.1, 8.11.2.4, 8.12.1.1 and 8.12.2 of Appendix 1 of the 4th ordinance on implementing the BlmSchG (Verordnung zur Durchführung des BlmSchG) (Ordinance on plants requiring approval (Verordnung über genehmigungsbedürftige Anlagen) - 4th BlmSchV).

The responsible approving authority according to Section 1 of the Ordinance on responsible authorities under the Federal immission control act, the Environmental impact assessment act, the Greenhouse gas emission trading act, the Act on implementing the protocol on pollutant release and transfer register, and the Petrol lead act (Ordinance regulating immission protection competences / Immissionsschutz-Zuständigkeitsverordnung - ImSchZuV) of 26 November 2014 (GVBl. I p. 331) shall be the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment.

### Delimitation of plants

In relation to the delimitation/description of plants, it is referred to the data supplied by the applicant in Chapters 3, 5 and 6 of the submitted application documents.

### Procedure process

Based on the plant being marked as "G" in column c of the Appendix of the 4th BlmSchV, the approval process was conducted with public participation.

Furthermore, it means a plant pursuant to the Industrial emissions directive (IED).

On 14 July 2015, Redux Recycling GmbH applied for approval to establish and operate the battery recycling plant.

The application documents were coordinated with the agencies and authorities involved, reviewed for completeness, and completed accordingly by the applicant until 29 December 2015. Completeness of the documents was determined on 29 December 2015.

The documents submitted on 1 February 2016 and 26 February 2016 in the course of the procedure after determination of their completeness merely related to editorial corrections of the AZB concept and fire protection concept and of Chapter 17.1 (management of substances hazardous to water), and thus did not require repeated notification according to Section 8 (2) of the 9th BlmSchV.

### Permission of a premature start according to Section 8a BlmSchG

The permission of a premature start as applied for in the notification of application according to Section 8a BlmSchG on the implementation of electrical work in warehouses, foundation work for machinery in Warehouses 1 and 3, construction of enclosures of technical equipment in Warehouse 1 and installation of waste air pipes in Warehouse 1 was granted by positive decision of the approving authority on

22 March 2016 (file reference IV/F 42.1 - 100h 14.05-Redux-1 -).

#### Environmental impact assessment

The plant is not listed in Appendix 1 of the UVP Act; an environmental impact assessment is therefore not required.

#### Public announcement, interpretation

The project was announced publicly according to Section 10 (3) BImSchG and Section 8 of the 9th BImSchV. The publication was launched on 18 January 2016 in the government gazette of the federal state of Hesse (Staatsanzeiger für das Land Hessen), No. 3 page 94.

According to Section 10 (3) BImSchG, the application and any associated documents were publicly displayed to be viewed during office hours at the Regional Council of Darmstadt, Frankfurt Division for Occupational Safety and Environment, and the municipal authorities of the City of Offenbach, administrative department (Magistrat der Stadt Offenbach, Hauptamt), between 26 January 2016 and 25 February 2016. During the objection period from 26 January 2016 to 10 March 2016, *no objections* were received, therefore the projected date for argument was cancelled according to Section 10 (6) BImSchG (Section 16 (1) No. 1 of the 9th BImSchV).

#### Assessment of approval conditions

The project and its impacts were adequately described in detail in the documents displayed. The documents allowed an assessment as to what extent adverse effects may be expected in order to be able to safeguard interests and rights. The application and documents complied with the requirements of Section 3 of the 9th BImSchV and Sections 4 to 4e of the 9th BImSchV.

The approving authority also examined if the documents submitted subsequently in the course of the procedure since being displayed were required to be displayed again. In consideration of the aforementioned principles this was no longer required. The documents submitted subsequently contained substantiating and partly editorial amendments that could not trigger and have not triggered a new, so far unidentifiable affection of third parties.

In the course of the approval process it was determined if approval conditions according to Section 6 BImSchG exist or are brought about by incidental provisions according to Section 12 BImSchG.

The following authorities, whose area of responsibility is affected by the project (cf. Section 10 (5) BImSchG), were involved:

- Municipal authorities of the City of Stadt Offenbach in relation to
  - building code regulation issues (construction supervisory authority /Bauaufsichtsamt),
  - fire protection (fire brigade of Offenbach, preventive fire and hazard protection),
  - health authority and environmental health issues (municipal public health department/ Stadtgesundheitsamt),
  - environmental, water and soil protection law issues (Office for environment, energy and mobility, and lower water authority /Amt für Umwelt, Energie und Mobilität; Untere Wasserbehörde),
  - urban planning issues (Office for urban planning and construction management),
  - road traffic law issues (road traffic authority /Strassenverkehrsbehörde),
  - the decision on granting municipal consent according to Section 36 (1) of the building code regulations (BauGB),
- Owner operated enterprise of the City of Offenbach in relation to drainage,
- Deutsche Bahn AG (German Rail),
- The following specialist departments of the Regional Council of Darmstadt affected by the project:
  - IV/F 41.1 - groundwater, soil protection (Grundwasser, Bodenschutz),
  - IV/F 41.4 - plant related water pollution control (Anlagenbezogener Gewässerschutz),



- IV/F 42.1 - waste management east (waste legislature) (Abfallwirtschaft Ost (Abfallrecht)),
- IV/F 42.1 - waste management east (air quality control) (Abfallwirtschaft Ost (Luftreinhaltung)),
- IV/F 43.1 - immission control (energy, noise protection) (Immissionsschutz (Energie, Lärmschutz)),
- IV/F 43.2 - chemicals law (Chemikalienrecht),
- IV/F 45.1 - occupational safety (Arbeitsschutz),
- IV/F 43.3 - chemistry east (in relation to accident or hazardous incident legislature) (Chemie Ost (in relation to Störfallrecht)).

The findings of official reviews are determined as follows:

Report on pretreatment conditions (AZB)

The plant is an IED plant (Numbers 8.11.2.1 and 8.12.1.1, registration E in column d in Appendix 1 of the 4th BImSchV). A report on pretreatment conditions of soil and groundwater (report on pretreatment conditions) is to be prepared for relevant hazardous substances under Section 3 (1) BImSchG if and insofar as a pollution of soil and groundwater may occur (Section 10 (1a) BImSchG).

The AZB may be submitted subsequently until starting to establish and initially operate the plant according to Section 7 (1) and the 9th BImSchV.

Construction supervision

Subject to incidental provisions under VI. No. 8 of the notice, there are no objections to the planned project in the opinion of the construction supervisory authority.

Fire protection

In relation to fire prevention legislature issues there are no objections to the project - subject to incidental provisions under VI. No. 8 of the notice.

Municipal public health department

In the opinion of the public health department there are likewise no objections to the planned project.

Planning law

Consent was granted by the municipal authorities of the City of Offenbach according to Section 36 BauGB. In the opinion of urban planning there are no objections to the project subject to complying with incidental provisions under VI. No. 9.

Road traffic authority

In the opinion of the road traffic authority incidental provisions are not required.

Municipal drainage

In the opinion of the owner operated enterprise of the City of Offenbach there are no objections in the opinion of municipal drainage to the planned project.

Groundwater, soil protection

In the opinion of soil protection there are no objections to the project subject to complying with incidental provisions under VI. No. 11 of the notice.

Deutsche Bahn AG (German Rail)

In the opinion of Deutsche Bahn AG the project may be carried out according to plan subject to complying with incidental provisions under VI. No. 14 of the notice.

Plant-related water pollution control

In the opinion of the ordinance on industrial installations (VAwS) there are no objections to the project.

Waste management, waste avoidance / waste processing (Section 5 (1) No. 3 BImSchG)

There are no objections to implementing the project. The incidental provisions under VI. No. 4 shall be implemented.

Immission control (air quality control)

After the assessment, based on present findings and experiences, there are no objections to the project as applied for in relation to pre-pollution states. It may be assumed accordingly that harmful environmental effects pursuant to Section 5 (1) No. 1 BImSchG are not caused if the plant is modified.

Therefore, in the opinion of air quality control there are no objections to the project subject to complying with incidental provisions under VI. No. 5.1.

Accident or hazardous incident legislature plant safety

In the opinion of accident or hazardous incident legislature and plant security there are no objections to the project subject to complying with incidental provisions VI. No. 6.

Energy efficiency

Usable operational waste heat is not produced during plant operation. Special provisions to increase energy efficiency are not evident.

Immission control (noise, light)

In relation to noise protection and other emissions (here: light) there are no objections to the project subject to complying with incidental provisions under VI. No. 5.2.

Chemicals law

In the opinion of chemicals law there are no objections to the project subject to complying with incidental provisions under VI. No. 7.

Occupational safety

According to occupational safety law there are no objections to implementing the project. Incidental provisions under VI. No. 12 must be observed.

Measures after cessation of business

With regard to Section 5 (3) BImSchG, the applicant has set forth the possible and necessary provisions from a current point of view.

There are no indications that, in the event of an actual pending cessation of business, the applicant shall not comply with his duties in this regard.

However, these regulations can, of course, not be complete. Details or necessary additional provisions may only be determined within the context of a notification according to Section 15 (3) BImSchG.

From a current point of view it may be determined on the basis of information given in the application documents, and taking into account the present decision, that Section 5 (3) BImSchG can be complied with.

According to Section 5 (4) BImSchG, the following return duty is outlined for IED plants: If, after 7 January 2013, due to operating a plant under the Industrial Emissions Directive (IED) soil or groundwater was subject to considerable pollution caused by hazardous substances compared with the condition specified in the report on pretreatment conditions, the operator shall after cessation of business be obliged, insofar as this is proportionate, to take pollution elimination measures to return the plant site to such pretreatment condition.

Other regulations under public law

In the opinion of other regulations under public law there are also no objections to an approval. Opinions

provided by the technical authorities involved generally give a positive assessment of the approval applied for. Any proposed incidental provisions are reflected in the notice of approval.

#### Handling of objections

Within the course of interpreting the application documents and within the statutory periods no objections were received.

#### Summarising assessment

According to Section 6 BImSchG in conjunction with Sections 5 and 7 BImSchG, the approval shall be granted if, by ensuring high levels of environmental protection in total,

- neither harmful environmental effects and other risks, nor significant disadvantages and considerable nuisances for the general public and neighbourhood may be caused,
- precautions are taken against harmful environmental effects and other risks, significant disadvantages and considerable nuisances, in particular by taking state-of-the-art measures,
- wastes are avoided, wastes that cannot be avoided are recycled, and wastes that cannot be recycled are disposed of without affecting the well-being of the general public,
- energy is used economically and efficiently,
- the operator complies with his duties in the event of a cessation of business, and
- there are no objections to establish and operate the plant in the opinion of other regulations under public law and occupational safety issues.

The application review conducted by the approving authority and the opinions obtained have revealed that the aforementioned requirements according to Sections 5 and 6 BImSchG are complied with taking into account incidental provisions under Chapter VI., and that no adverse effects are expected by the respective plant.

The incidental provisions listed in Chapter VI. according to Section 12 BImSchG are particularly based on regulations set forth in the technical instructions on air quality control (TI Air), in the technical instructions on noise prevention (TI Noise), in the occupational safety law (ArbSchG), in the workplace ordinance (ArbStättV), in the applicable accident prevention regulations and reference documents of the responsible trade association, in the VDE provisions, DIN regulations, VDI guidelines, and other recognised technical rules. They serve the purpose of immission control, occupational safety, fire protection and general safety.

They are also required in parts for clarification reasons, and supplement the specifications in the application documents insofar as these were interpretable.

#### In detail:

##### In relation to incidental provisions under VI. No. 4 - Waste management

Incidental provisions under waste legislature aim at promoting closed loop recycling in order to preserve natural resources and protect humanity and the environment. For this purpose, the recycling of wastes that are temporarily stored and processed at the plant is to be carried out in a proper and harmless manner. Adverse effects on the well-being of the general public, especially harmful impacts on waters and soil, are not expected, in particular due to surfacing designs, instructions on separating different waste types, and requirements on quality assurance. The regulations provided are adequate and necessary for this purpose.

##### In relation to incidental provisions 4.1

The waste catalogue including capacities and storage quantities serves the purpose to mandatorily determine what materials/substances are approved in what quantities in relation to input and output, and what materials/substances may be stored temporarily in what quantities. The specifications comply with the specifications in the application documents.

In relation to incidental provisions 4.1.6 and 4.1.7

The incidental provisions ensure that only such wastes are handled at the plant that are covered by the notice of approval. The authority may be able to assess if deviations to the waste catalogue occur when operating the plant. Legal basis for this incidental provision shall be Section 47 of the Closed loop recycling act (KrWG).

In relation to incidental provision 4.2 (Register)

Legal basis for this incidental provision shall be Section 49 KrWG. By keeping a register, it is possible to (self-)monitor the proper operation management, in particular with regard to input and output of hazardous wastes. The register shall enable the supervisory authority to review the latest operating data at any time.

In relation to incidental provisions 4.5 (Analyses)

There are no apparent legal regulations (including product-specific DIN standards, or other rules including those of private nature) with regard to scrap manganese oxide and zinc oxide. In the present case, regular analyses of materials at the plant shall ensure that there is a comparable quality standard with corresponding primary substances, and that therefore the same technical requirements apply. But then again this ensures that primary raw materials may be replaced with materials that are recycled by Redux. Likewise, an accumulation of hazardous substances is avoided hereby.

In relation to incidental provisions 4.4 (Documentation)

These incidental provisions serve the purpose of ensuring any necessary monitoring and control of waste management activities undertaken by the company. In so doing, specific consideration is given to the purpose, activity and size of the company, the activities of employees of the company, and the type of waste to which these activities relate. Evidence must also be provided - also to the responsible authority - on the adequate and appropriate implementation of waste management activities.

#### In relation to incidental provisions under VI. No. 5 - Immission control

In relation to 5.1 Air quality control

The incidental provisions on air quality control are based on the obligations of the operator (Section 5 BImSchG) in conjunction with the regulations of TI Air (in particular Numbers 5.2 and 5.3). The incidental provisions ensure that no harmful environmental effects, significant nuisances, or risks for environments are caused by operating the plant as specified. This applies not only to measured emissions but also to possible diffuse emissions.

#### *Emissions/immissions according to TI Air*

The emissions of the plant are limited by the waste air purification plant to such extent that they will be of no relevance to immissions.

The operator shall implement possible state of the art provisions of reduction. Due to these provisions, reduced mass flows and characteristics of substances, and the diversion of emissions according to No. 5.5 TI Air, health hazards may not be expected. Likewise, significant disadvantages and considerable nuisances may not be caused by the plant.

The obligations according to Section 5 (1) No. 1 BImSchG - Protection against harmful environmental effects and other risks, significant disadvantages and considerable nuisances - are complied with.

#### *Waste air purification plant technology*

A permanent functionality of the waste air purification plants was ensured by stipulating measures of monitoring and regular maintenance (incidental provisions VI. No. 5.1.5.1).

#### *Precaution*

The filter technology, as applied for, of waste air purification systems - in connection with partially falling

below the limit values of TI Air - aims at a compliance with emission precaution values stipulated in the Technical instructions on air quality control (TI Air), and ensures permanent compliance with these.

The precaution principle of Section 5 (1) No. 2 BImSchG is accorded with in its entirety taking into account the applicable specifications made by the applicant in the submitted application documents (see Chapter 8), and the relevant specifications of the present notice.

Additional provisions are not to be requested in this regard.

#### *Emission threshold values below limit values of TI Air*

The limit values as stipulated in the notice of approval, and as already applied for by the applicant, partially fall below the stipulated limit values of TI Air.

The applicant is committed by incidental provision VI. No. 5.1.1 to comply with these values.

#### *Assessment of emissions*

Measuring and monitoring emissions is subject to the requirements of TI Air (No. 5.3.2).

Depending on the results of individual measurements, subsequent continuous measurements of recorded waste air flows may be required and thus reflect the precaution principle and allow for the existence of special substances in waste air.

In relation to 5.1.6 Immission control commissioner

According to Section 53 (1), the operator of a plant that requires approval shall appoint one or several plant delegates to control immissions (immission control commissioners), insofar as this is required with regard to type and size of the plant due to

1. emissions generated by the plant,
2. technical problems of emission limitation, or
3. suitability of the products to cause harmful environmental effects such as air pollution, noise or vibration when being used as specified.

According to Section 53 (1) BImSchG in conjunction with Section 5 (1) of the 5th BImSchV, the authority shall on request by the operator permit the appointment of one or several immission control commissioners that is/are not employed by the company if this does not jeopardise appropriate compliance with the duties as specified in Section 54 BImSchG.

(Mister) Dr. Görtier has been an immission control and waste commissioner in the past at the location in Dietzenbach. Appropriate certificates providing his competency were enclosed with the application documents.

The appointment of (Mister) Dr. Görtier as an immission control commissioner not being employed by the company could be permitted.

In relation to 5.2 Noise protection

After inspecting and reviewing the application documents, including the enclosed prognosis assessment in terms of noise, report no. 21486/A26695/553004312- B01, of DEKRA Automobil GmbH of 9 January 2015, it may be assumed that, by operating a plant for storing and processing used batteries on the company site of Redux GmbH in Offenbach as applied for, harmful environmental effects by noise immissions at relevant immission points may not be expected. Considerable effects on the environment or noise exposure may likewise not be expected.

The aforementioned prognosis assessment in terms of noise specified that during daytime the immission levels fall below admissible immission levels at relevant immission points as follows: in common residential areas - WA (IP6) by 9 dB(A), in mixed areas - MI (IP7) by 14 dB(A), in business parks - GE (IP1 - IP4) by at least 12 dB(A), and in industrial areas - GI (IP5) by 22 dB(A).

During nighttime the immission levels fall below admissible immission levels under Clause 6.1 of TI Noise at

relevant immission points as follows: in WA (IP6) by 9 dB(A), in MI (IP7) by 8 dB(A), in GE (IP1 - IP4) by at least 9 dB(A), and in GI (IP5) by 35 dB(A).

According to TI Noise, any contributions to ambient pollution caused by the aforementioned plant may not be considered relevant if additional pollution caused by the plant to be assessed falls below immission levels by at least 6 dB(A). In the existing case, this condition applies at all examined immission points (IP1 - IP7), in relation to the allocated area.

Based on the aforementioned findings of the prognosis assessment, it is not required to carry out a measurement after initial operation.

#### In relation to incidental provisions under VI. No. 6 - Accident or hazardous incident legislature, security of installations

The provisions for protecting the general public, neighbourhood and environment, as described in the application documents, comply with the requirements of Sections 3 to 8 of the 12th BImSchV (basic duties) and are adequate to avoid hazardous incidents, and mitigate impacts of hazardous incidents, if applicable. The maximum hold-up was included in the operative part of the notice of approval and thus provides for the existence of hazardous incident substances at the plant.

Further incidental provisions serve the purpose of substantiating the operation of the plant with regard to existing hazardous incident substances, their storage and recording.

The fire protection concept takes up all relevant aspects and is to be coordinated with supervisory authorities and submitted until initial operation.

#### *Safety (hazardous incident ordinance (Störfallverordnung)), security of installations*

The operating area of Redux Recycling GmbH at the location in Offenbach shall be subject to basic duties of the hazardous incident ordinance. The approval process was subject to submitting a project-related expert opinion on "Reviewing the applicability of the hazardous incident ordinance" ("Prüfung auf Anwendbarkeit der Störfallverordnung") by Müller-BBM, Hamburg, saying that the operation of the plant would not give reason to fear a serious risk:

- There is no risk to persons on the company site that may be caused by toxic substances in the event of a release of these environmentally relevant hazardous substances as set forth in the hazardous incident ordinance.
- Any relevant substances according to the hazardous incident ordinance are not combustible by themselves. Therefore, any fire and any associated risk by thermal radiation may be reasonably excluded.
- Any risks by an explosion are reasonably excluded because inflammable gases or dusts are not handled on the company site.
- Therefore, in relation to the operating area of Redux Recycling GmbH, Offenbach, no scenario can be imagined that might require an adequate distance as set forth in guideline KAS-18 or within the meaning of Section 50 BImSchG.

Insofar as there is still a need for regulation in this regard in the approval process, such requirement has been reflected in Section VI. No. 6 of the present notice.

Further incidental provisions on plant safety ensure the implementation of projects as applied for, the intended operation, the regular inspection and maintenance of plant technology, and the type and scope of documentation in these areas. Legal basis for the incidental provisions shall be Section 5 BImSchG.

#### In relation to incidental provisions under VI. No. 7 - Chemicals law/REACH

The exceptional rule of Article 2 (7) REACH could only be applied upon providing evidence of recovered substances being identical with those substances already registered.

A mixture of substances is produced in the course of the recycling process, the components of which required to be examined. In examinations carried out by the Fraunhofer Institute, the substances contained in the recovered mixtures were identified to enable comparison with substances registered in the database. Main components of these mixtures are substances that are already registered and covered by safety data sheets that were also provided by the applicant. Any contained contaminations are not relevant. All duties for recycling companies under REACH are thus fulfilled, and the applicant is not required to undertake own registrations.

This decision shall only apply to the recycling plant applied for; in the event of additional other substances or mixtures, a conformity with REACH must be reviewed.

#### In relation to incidental provisions under VI. No. 12 - Occupational safety

Legal basis for requirements of incidental provisions on occupational safety are set out in Sections 3, 5, 6 of the occupational safety law (ArbSchG), Sections 3 and 9 of the occupational safety regulations (BetrSichV), and Sections 7 ff. of the ordinance on hazardous substances (GefStoffV).

#### In relation to incidental provisions under VI. No. 13 - Health protection

According to Section 1 of the occupational safety law, the operator shall be liable to take appropriate measures of occupational safety taking into account any circumstances that have an impact on safety and health of the employees at work. The operator shall review the effectiveness of such measures and adapt these to changing conditions, if applicable. In so doing, he must pursue an improvement of safety and health protection of his employees.

#### In relation to incidental provisions under VI. No. 15 - Security deposit

The requirement of providing a security deposit is based on Section 12 (1) Sentence 2 BImSchG. According to Section 4 (1) Sentence 1 BImSchG on ensuring obligations according to Section 5 (3) BImSchG (follow-up), an incidental provision must be imposed on waste disposal plants to provide a security deposit. Based on experience, plants for storing and processing waste present a particularly high risk that after cessation of business (often due to insolvency) restoration to a proper condition of the company site is not guaranteed. In addition to the general point of view of guaranteeing effectiveness concerning enforcement, the provision of a security deposit shall avoid that the general public must bear the cost burden if the operator of the waste disposal plant, who is to be called upon primarily according to the polluter-pays principle, fails - namely due to insolvency - with regard to his follow-up obligations. An incidental provision that is adequate but a lesser burden is not apparent.

The security deposit amount shall take into account the cost burden that possibly results from Section 5 (3) BImSchG. In so doing, costs relating to the disassembly of (recyclable) aggregates were not taken into account but only costs relating to the clearing and disposing of wastes that have no empirical selling value.

If the approved total capacity of the plant is 25,200 t/a, then the amount of wastes stored at the plant in normal operation conditions was set at 871 t maximum. Of these, 246 t are taken into account when calculating the security deposit. According to current figures, the clearing and disposing of such wastes costs about € 637.00 per ton on average. An allowance of 10 % of waste disposal costs was to be added in relation to analyses, transit and transport costs and the unexpected. This amounted to EURO 189,860.00 (rounded) to be taken as a basis for the security deposit.

It is necessary to determine that the requirement of providing a security deposit shall also apply to a new operator in the event of a change of operator because guarantees and similar security deposits are generally tied to the person and thus may not necessarily become the property of the new operator in the event of a change of operator.

## Costs

### Grounds for the order for payment of costs

The payment of costs is ordered as provided under Sections 1 (1, 2) Subsections 1, 11 and 14 of the Administrative expenses act of the state of Hesse (HVwKostG) as amended on 12 January 2004 (GVBl. I p. 36), last amended on 13 December 2012 (GVBl. I p. 622). Fee circumstances are based on Section 2 HVwKostG in conjunction with the administrative expenses order (Verwaltungskostenordnung) of the Division of the Hessian Ministry of environment, climate protection, agriculture and consumer protection (VwKostO-MUKLV) as amended on 18 December 2014 (GVBl. 2015 p. 2).

### Determination of costs

Administrative expenses are determined as follows:

#### Approval fee based on total investment

##### Basic fee

According to fees number 15112, the official fee for investment costs in the amount of up to € 50,000,000.00 shall be 1.2 % of the investment costs, however at least € 10,800.00

Investment costs in the present case € 1,250,000.00, thereof 1.2 %

Basic fee: € 15,000.00

Expenses exceeding the threshold described in No. 151 were not incurred.

The administrative expenses payable are itemised as follows:

|                                |             |
|--------------------------------|-------------|
| Fee based on total investment: | € 15,000.00 |
|--------------------------------|-------------|

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**This equals a total amount of: € 15,000.00**

The administrative expenses are payable until **20 June 2016** - quoting the reference number - and shall be transferred to the following bank account:

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Recipient:                           | HCC-RP Darmstadt                     |
| Financial institution:               | Landesbank Hessen-Thüringen (HeLaBa) |
| IBAN code:                           | IBAN DE 87 5005 0000 0001 0058 75    |
| BIC code:                            | HELADEFFXXX                          |
| Intended purpose (reference number): | <b>42105371600634</b>                |

According to Section 15 of the Administrative expenses act of the state of Hesse (HVwKostG), a **penalty for delay** of one percent of the arrears per month or part thereof shall be due if the total amount has not been credited to the account at the Landesbank Hessen-Thüringen until expiry of the fixed date of payment. The authority shall not allow discretion in this case.

## **VIII. Legal remedies**

An action against this notice may be brought in the **Hessian higher administrative court (Hessischer Verwaltungsgerichtshof), Brüder-Grimm-Platz 1, 34117 Kassel**, within one month after its announcement.

Insofar as the action is against the order for payment of costs only, it shall be brought in the:



**Higher administrative court of Darmstadt (Verwaltungsgericht Darmstadt)  
Julius-Reiber-Straße 37  
64293 Darmstadt**

within one month after the announcement of the notice.

By authority

[signed: illegible signature]

[stamp: Regierungspräsidium Darmstadt]

Holger Jeuck

Appendix: List of abbreviations and source addresses

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| Abbreviation                     | Name  | Source address  | last amendment  |
|----------------------------------|---|---|---|
| AbfVerbrG                        | Waste transportation act  | 19 July 2007 (BGBl.I p. 1462)   | 31 Aug 2015 (BGBl.I p. 1474)                              |
| AllgVwKostO                      | General administrative expenses order   | 11 Dec 2009 (GVBl.I p. 763)   | 9 Nov 2015 (GVBl.I p. 390)                                |
| ArbSchG                          | Occupational safety law   | 7 Aug 1996 (BGBl.I p. 1246)   | 31 Aug 2015 (BGBl.I p. 1474)                              |
| ArbStättV                        | Workplace ordinance, workplace guidelines, miscellaneous  | 12 Aug 2004 (BGBl.I p. 2179)  | 19 July 2010 (BGBl.I p. 960)                              |
| ASR                              |   |   |   |
| AW                               | Ordinance on the European waste catalogue (Waste catalogue ordinance)   | 10 Dec 2001 (BGBl.I p. 3379)  | 24 Feb 2012 (BGBl.I p. 212)                               |
| BauGB                            | Building code regulations   | As amended on 23 Sept 2004 (BGBl.I p. 2414)   | 20 Oct 2015 (BGBl.I p. 1722)                              |
| BauNVO                           | Land use ordinance - Ordinance on the structural utilisation of properties  | As amended on 23 Jan 1990 (BGBl.I p. 132)   | 11 June 2013 (BGBl.I p. 1548)                             |
| BBodSchG                         | Federal soil protection act - Act on the protection against harmful soil changes and on the restructuring of contaminated sites   | 17 March 1998 (BGBl.I p. 502)   | 31 Aug 2015 (BGBl.I p. 1474)                              |
| BBodSchV                         | Federal soil protection and contaminated sites ordinance  | 12 July 1999 (BGBl.I p. 1554)   | 31 Aug 2015 (BGBl.I p. 1474)                              |
| BetrSichV                        | Occupational safety ordinance - Ordinance on safety and health protection when using work equipment   | As amended on 3 Feb 2015 (BGBl.I p. 49)   | 13 July 2015 (BGBl.I p. 1187)                             |
| BlmSchG                          | Federal immission control act   | As amended on 17 May 2013 (BGBl.I p. 1274)  | 31 Aug 2015 (BGBl.I p. 1474)                              |
| (BlmSchG-VO on responsibilities) | Ordinance on responsibilities according to the Federal immission control act, the environmental impact assessment act, the greenhouse gas emission trading act, the act on implementing the protocol on pollutant release and transfer register, and the petrol lead act (Ordinance regulating immission protection competences - ImSchZuV) | As amended on 26 Nov 2014 (GVBl.I p. 331)   |   |
| 4th BlmSchV                      | Ordinance on plants requiring approval  | As amended on 2 May 2013 (BGBl.I p. 973)  | 28 April 2015 (BGBl.I p. 670)                             |
| 5th BlmSchV                      | Ordinance on immission control and hazardous incident commissioners   | 30 July 1993 (BGBl.I p. 1433)   | 28 April 2015 (BGBl.I p. 670)                             |
| 9th BlmSchV                      | Ordinance on the approval process   | As amended on 29 May 1992 (BGBl.I p. 1001)  | 28 April 2015 (BGBl.I p. 670)                             |
| 12th BlmSchV                     | Hazardous incident ordinance  | As amended on 8 June 2005 (BGBl.I p. 1598)  | 31 Aug 2015 (BGBl.I p. 1474)                              |
| BG-Regelungen                    | Professional association regulations and guidelines of the accident insurance   | see: <a href="http://sifa-news.de/inhalte/rechtsworc-hriften">http://sifa-news.de/inhalte/rechtsworc-hriften</a>                                |   |
| ChemG                            | Law on the protection against hazardous substances (Chemicals law)  | As amended on 28 Aug 2013 (BGBl.I p. 3498)  | 31 Aug 2015 (BGBl.I p. 1474)                              |
| ChemKlimaschutzV                 | Chemicals climate protection ordinance, ordinance on the protection of climate against changes caused by penetration of specific fluorinated greenhouse gases   | 2 July 2008 (BGBl.I p. 1139)  | 20 Oct 2015 (BGBl.I p. 1739)                              |
| ChemVerbotsV                     | Chemicals prohibition ordinance   | As amended on 13 June 2003 (BGBl.I p. 867)  | 24 Feb 2012 (BGBl.I p. 212)                               |
| CLP-Verordnung                   | Ordinance (EC) No. 1272/2008 of the European Parliament and Council on the classification, labelling and package of substances and mixtures, on the amendment and repeal of guidelines 67/548/EEC, and on the amendment of Ordinance (EC) No. 1907/2006   | of 16 Dec 2008 (ABI No. L 353 of 31 Dec 2008, p. 1) also <a href="http://www.reach-clp-biozid-helpdesk.de">www.reach-clp-biozid-helpdesk.de</a> | 11 July 2012 (Ordinance (EC) No. 618/2012 (ABI. L 179/3)) |
| DIN standards                    | DIN standards, Beuth Verlag GmbH, Burggrafenstraße 6, 10787 Berlin  |   |   |
| ElektroG                         | Electrical and electronic equipment act, Act on marketing, taking back, and sustainably disposing of electrical and electronic equipment.<br>Ordinance on the protection against hazardous substances   | As amended on 20 Oct 2015 (BGBl.I p. 1739)  | 20 Oct 2015 (BGBl.I p. 1739)                              |
| GefstoffV                        |   | As amended on 26 Nov 2010 (BGBl.I p. 1643)  | 3 Feb 2015 (BGBl.I p. 49)                                 |
| GewAbfV                          | Commercial waste ordinance  | 19 June 2002 (BGBl.I p. 1938)   | 24 Feb 2012 (BGBl.I p. 212)                               |
| HAKrWG                           | Hessian regulatory statute on the closed loop recycling act (shall replace HAKA in some parts)  | 6 March 2013 (GVBl. p. 4)   |   |
| HAltBodSchG                      | Hessian contaminated sites and soil protection act  | 28 Sept 2007 (GVBl.I p. 652)  | 27 Sept 2012 (GVBl.I p. 290)                              |
| HBO                              | Hessian building regulations  | As amended on 15 Jan 2011 (GVBl.I p. 46)  | 30 Nov 2015 (GVBl. I p. 457).                             |
| HVwVfG                           | Hessian administrative procedure act  | As amended on 15 Jan 2010 (GVBl. I p. 18)   | 26 June 2015 (GVBl.I p. 254)                              |
| HVwKostG                         | Hessian administrative expenses act   | As amended on 12 Jan 2004 (GVBl.I p. 36)  | 13 Dec 2012 (GVBl.I p. 622)                               |

|                            |  |   |  |
|----------------------------|--|---|--|
| HWG<br>KrWG                | Hessian water act<br>Closed loop recycling act - Act on the promotion of closed loop recycling and protection of sustainable management of wastes  | 14 Dec 2010 (GVBl.I p. 548)<br>24 Feb 2012 (BGBl.I p. 212)  | 28 Sept 2015 (GVBl. I p. 338)<br>20 Nov 2015 (BGBl.I p. 2071)  |
| NachweisV                  | Ordinance on waste recovery and disposal records -<br>Ordinance on providing evidence when disposing of wastes   | 20 Oct 2006 (BGBl.I p. 2298)<br>19 Feb 1987 (BGBl.I p. 602)   | 31 Aug 2015 (BGBl.I p. 1474)<br>13 May 2015 (BGBl p. 706)  |
| OWiG<br>REACH<br>ordinance | Administrative offences act<br>Ordinance (EC) No. 1907/2006 of the European Parliament and Council of 18 Dec 2006 on the registration, assessment, permission and limitation of chemical substances, ...   | as amended, published on 29 May 2007 in the official gazette of the European Union L 136/3  | 15 Feb 2012 (ABI No. L41/1)<br>see also <a href="http://www.reach-info.de">www.reach-info.de</a><br>-» Ordinance text<br>3 Dec 2015 (BGBl.I p. 2177) |
| StGB                       | Penal code   | As amended on 13 Nov 1998 (BGBl.I p. 3322) 26 Aug 1998 (GMBL p. 503) 24 July 2002 (GMBL) p. 511 see also <a href="http://www.baua.de">www.baua.de</a> |  |
| TI Noise<br>TI Air<br>TRBS | Technical instructions on noise prevention<br>Technical instructions on air quality control<br>Technical rules for occupational safety (misc.)<br>e.g. TRBS 2152 Ex protection   |   |  |
| TRGS<br>UVPG               | Technical rules for hazardous substances (misc.)<br>Environmental impact assessment act  | see also <a href="http://www.baua.de">www.baua.de</a><br>As amended on 24 Feb 2010 (BGBl.I p. 94)   | 21 Dec 2015 (BGBl.I p. 2490)   |
| uvv                        | Accident prevention regulations of the responsible trade association   |   |  |
| VAwS                       | Ordinance on plants for handling substances hazardous to water   | 31 March 2010 (BGBl.) p. 377)   |  |
| VAwS-Hessen                | VAwS - Plant ordinance - Ordinance on plants for handling substances hazardous to water and on specialist companies - Hesse -<br>VDI guidelines, Beuth-Verlag GmbH, Burggrafenstrasse 6, 10787 Berlin  | 16 Sept 1993 (GVBl.I p. 409)  | 4 Dec 2013 (GVBl.I p. 663)   |
| VDI                        | Regulations governing administrative courts  |   |  |
| VwGO<br>VwKostO-<br>MUKLV  | Administrative expenses order for the Division of the (Hessian) Ministry for environment, climate protection, agriculture, and consumer protection (in conjunction with the administrative costs schedule included in the Appendix)<br>As amended on 8 Dec 2009 (GVBl.I p. 522), last amended on 18 Dec 2014 (GVBl.I of 14 Jan 2015, p. 2) | 19 March 1991 (GVBl.I p. 686) 8 Dec 2009 (BGBl.I p. 522)  | 21 Dec 2015 (BGBl I p. 2490)<br>18 Dec 2014 (GVBl.I p. 250)<br>(GVBl of 14 Jan 2015)   |
| WHG                        | Water resources act - Act on regulating water supply and consumption   | 31 July 2009 (BGBl.I p. 2585)   | 31 Aug 2015 (BGBl.I p. 1474)   |

BVT documents to be found at <http://eippcb.jrc.ec.europa.eu/reference/>

or the German wording, however delayed accordingly, at:

<http://www.umweltbundesamt.de/themen/wirtschaft-konsum/beste-verfuegbare-techniken/sevilla-prozess/bvt-download-bereich>