



# **Implementation Of New Module WAC/TWG Submission**

**Presented by  
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Hazardous Substance Division**



$s^2 3d^7$ cobalt 58.93	<b>45</b> <b>Ni</b> $[Ar]4s^2 3d^8$ nickel 58.69	<b>46</b> <b>Cu</b> $[Ar]4s^1 3d^{10}$ copper 63.55	<b>47</b> <b>Zn</b> $[Ar]4s^2 3d^{10}$ zinc 65.39	<b>31</b> <b>Ga</b> $[Ar]4s^2 3d^{10} 4p^1$ gallium 69.72	<b>32</b> <b>Ge</b> $[Ar]4s^2 3d^{10} 4p^2$ germanium 72.58	<b>33</b> <b>As</b> $[Ar]4s^2 3d^{10} 4p^3$ arsenic 74.92	<b>34</b> <b>Se</b> $[Ar]4s^2 3d^{10} 4p^4$ selenium 78.96	<b>35</b> <b>Br</b> $[Ar]4s^2 3d^{10} 4p^5$ bromine 79.90
<b>44</b> <b>Rh</b> $[Kr]4d^8 5s^1$ rhodium 101.07	<b>46</b> <b>Pd</b> $[Kr]4d^9 5s^1$ palladium 106.90	<b>47</b> <b>Ag</b> $[Kr]4d^9 5s^1$ silver 107.87	<b>48</b> <b>Cd</b> $[Kr]4d^{10} 5s^1$ cadmium 112.41	<b>49</b> <b>In</b> $[Kr]4d^{10} 5s^1$ indium 114.82	<b>50</b> <b>Sn</b> $[Kr]4d^{10} 5s^2$ tin 118.71	<b>51</b> <b>Sb</b> $[Kr]4d^{10} 5s^2$ antimony 121.76	<b>52</b> <b>Te</b> $[Kr]4d^{10} 5s^2$ tellurium 127.60	<b>53</b> <b>I</b> $[Kr]4d^{10} 5s^2$ iodine 126.91



## Waste Acceptance Criteria (WAC)/ TWG Submission

# Why Implement Waste Acceptance Criteria?

To ensure the waste is properly handled and processed in responsible manner

The proposed WAC functionality in eSWIS, enable DOE to perform activities as below:

1. Develop standard parameter baseline for waste code, waste type and type of handling & technology
2. Generate comprehensive, reliable and accurate list of Receivers with authorized waste code, license and allowed Technology/Service
3. Establish Governance for Generators via consignment note and tracking with waste composition

# Benefit of Waste Acceptance Criteria Implementation

To assist WR to comply with condition of Compliance Schedule with regards to WAC

To ensure only targeted waste is collected and received at WR premise

To ensure waste is properly handled and processed in environmentally sound manner at WR Premise

To ensure pollution control installed at premise able to cope with incoming waste to be processed

To assist WG to handle their waste according to the waste management hierarchy

To assist WG to identify licensed facilities for treatment and disposal of scheduled wastes

## AKTA KUALITI ALAM SEKELILING, 1974

PERATURAN-PERATURAN KUALITI ALAM SEKELILING  
(BUANGAN TERJADUAL), 2005PERINTAH KUALITI ALAM SEKELILING  
(PREMIS YANG DITETAPKAN) (KEMUDAHAN PENGOLAHAN  
DAN PELUPUSAN BUANGAN TERJADUAL), 1989 (PINDAAN), 2006PERATURAN-PERATURAN KUALITI ALAM SEKELILING  
(PREMIS YANG DITETAPKAN) (KEMUDAHAN PENGOLAHAN DAN  
PELUPUSAN BUANGAN TERJADUAL), 1989 (PINDAAN), 2006

## JADUAL PEMATUHAN

Nombor Lesen : 003652

Jenis Premis : Kemudahan Pemerolehan Kembali Luar Tapak

Kod Buangan Terjadual : SW 202, SW 204, SW 206, SW 401 & SW 422

Nama Pemegang Lesen : Chemindus Sdn. Bhd.

Nama dan Alamat Premis :  
Taman Perindustrian  
42920 PELABUHAN KLANG

## 1. KEPERLUAN ORANG BERWIBAWA DI BAWAH SEKSYEN 49A

- 1.1 Pemunya atau penghuni premis hendaklah memastikan orang berwibawa sentiasa berada di premis bagi menjalankan apa - apa aktiviti pengurusan buangan terjadual.
- 1.2 Pengurusan buangan terjadual dari aspek pengangkutan, penstoran, pemprosesan, pelupusan, pelaporan dan dokumentasi hendaklah di kawal selia oleh orang yang berkecualan (orang yang berwibawa).

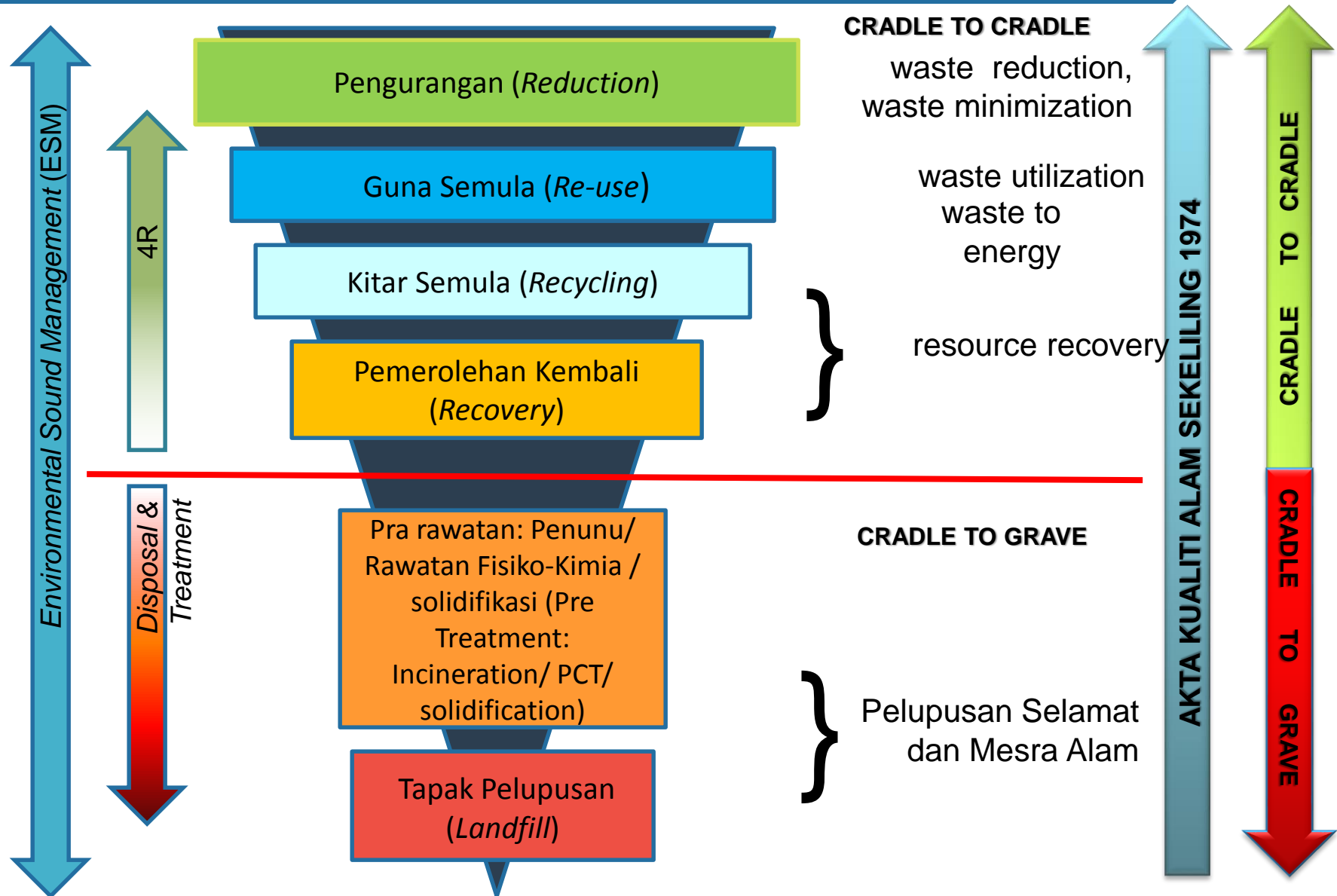
## 2. JENIS DAN KUANTITI BUANGAN TERJADUAL

- 2.1 Jenis dan kuantiti buangan terjadual yang dibenarkan untuk diperolehi kembali adalah seperti berikut:-

Bil	Nama Buangan	Kod Buangan	Kuantiti dibenarkan (sebulan)
1.	Spent Catalysts ( zinc copper catalyst, nickel catalyst and zinc catalyst)	SW 202	500 metrik tan
2.	Sludge containing copper	SW 204	300 metrik tan
3.	Copper chloride solution, copper sulphate solution, nickel solution and spent ferric/ferrous solution	SW 206	3,900 metrik tan
4.	Spent alkalis containing heavy metals	SW 401	180 metrik tan
5.	Coolant contaminated aluminium chips	SW 422	400 metrik tan

- 2.2 Buangan-buangan jenis lain selain dari yang dinyatakan di para 2.1 atau buangan-buangan yang tidak memenuhi WAC (*waste acceptance criteria*) sepertimana di **Para 4.6: Waste Acceptance Criteria** muka surat 4-6 hingga 4-10 di dalam Laporan Environmental Impact Assessment bertarikh 13 Februari 2014 adalah dilarang diterima untuk diproses bagi tujuan pemerolehan kembali tanpa mendapat kebenaran bertulis daripada Ketua Pengarah Alam Sekeliling terlebih dahulu. **Lampiran WAC hendaklah dilengkapkan dan dikembalikan ke Jabatan ini dalam tempoh satu bulan dari tarikh pembaharuan lesen.**

# Scheduled Waste Management Hirachy



# Implication of Not Implementing Waste Acceptance Criteria

Technology at WR premise unable to process waste received

WR received low content of targeted material in the waste resulted in:

- Not-economic for recovery
- High generation of residue, incurred high cost for handling and disposal

Pollution Control System installed at WR Premise unable to cope with pollutants generated from wastes processing resulting in environmental pollution

Non-compliance to license condition with regards to WAC restriction

Non-compliance to effluent discharge standard / air pollution standard



# Overview on Roles for Waste Acceptance Criteria



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## Waste Acceptance Baseline

- Component Listing
- Specify of Waste Code
- Allow Disposal or 3R
- Define Baseline by Type & Composition
- **Potential Treatment**

## Waste Acceptance Criteria

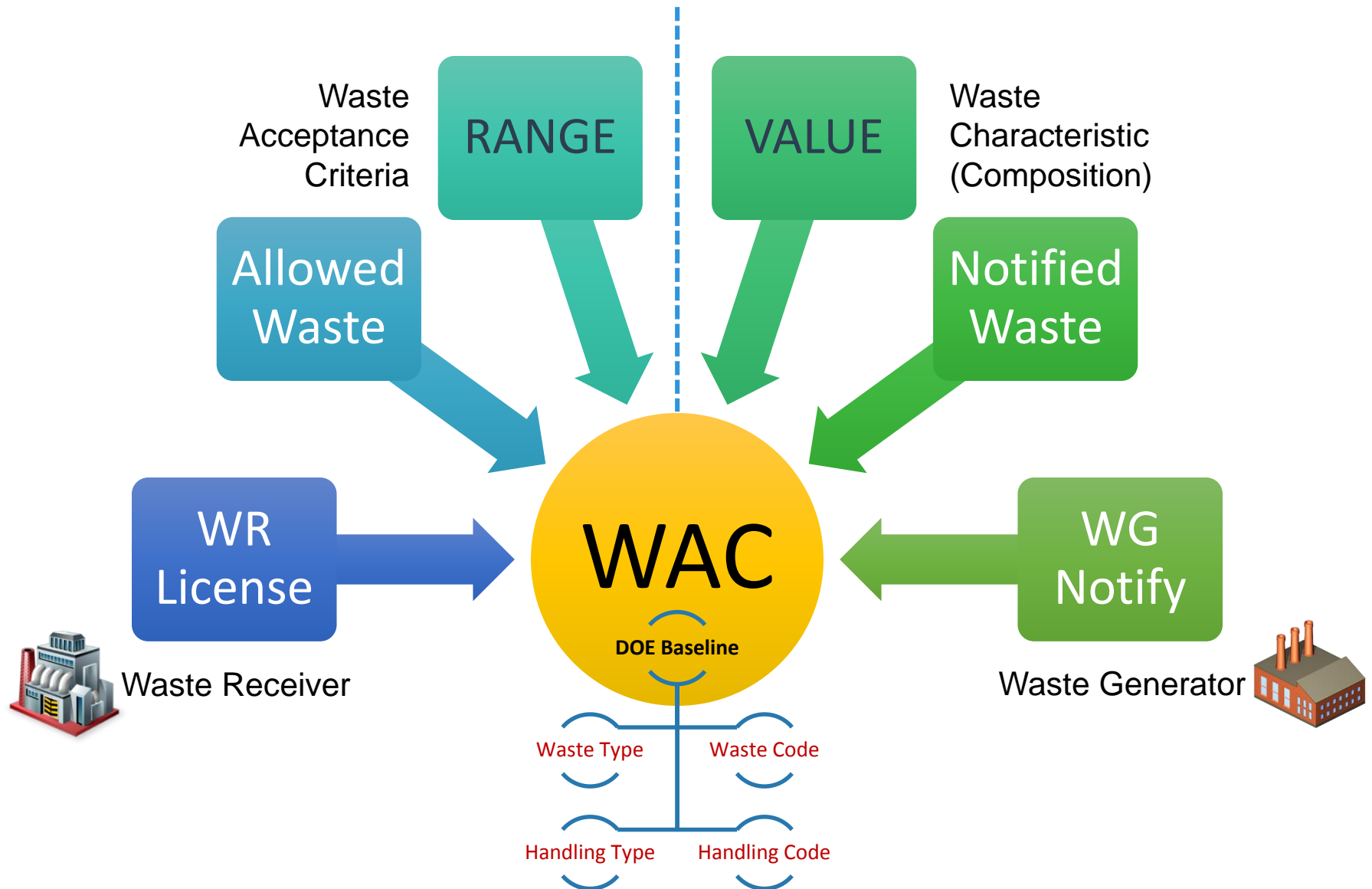
- Linked with License & Waste Code Allowed
- Define Allowed Treatment / Handling (disposal / 3R)
- ***Define Composition Values & response to Compliance***

## Waste Characteristic

- Linked with Notified Waste Code
  - Specification of Composition
  - Select of Treatment
  - ***List of Qualified Waste Receiver***
-



# Overview of WAC Validation Process



Required Periodic  
Compliance



Required to  
Report Residue

Validate with DOE Baseline  
for Comply Treatment &  
Composition



**WAC**  
DOE Baseline



Recycle

Recovery

Disposal Only

1

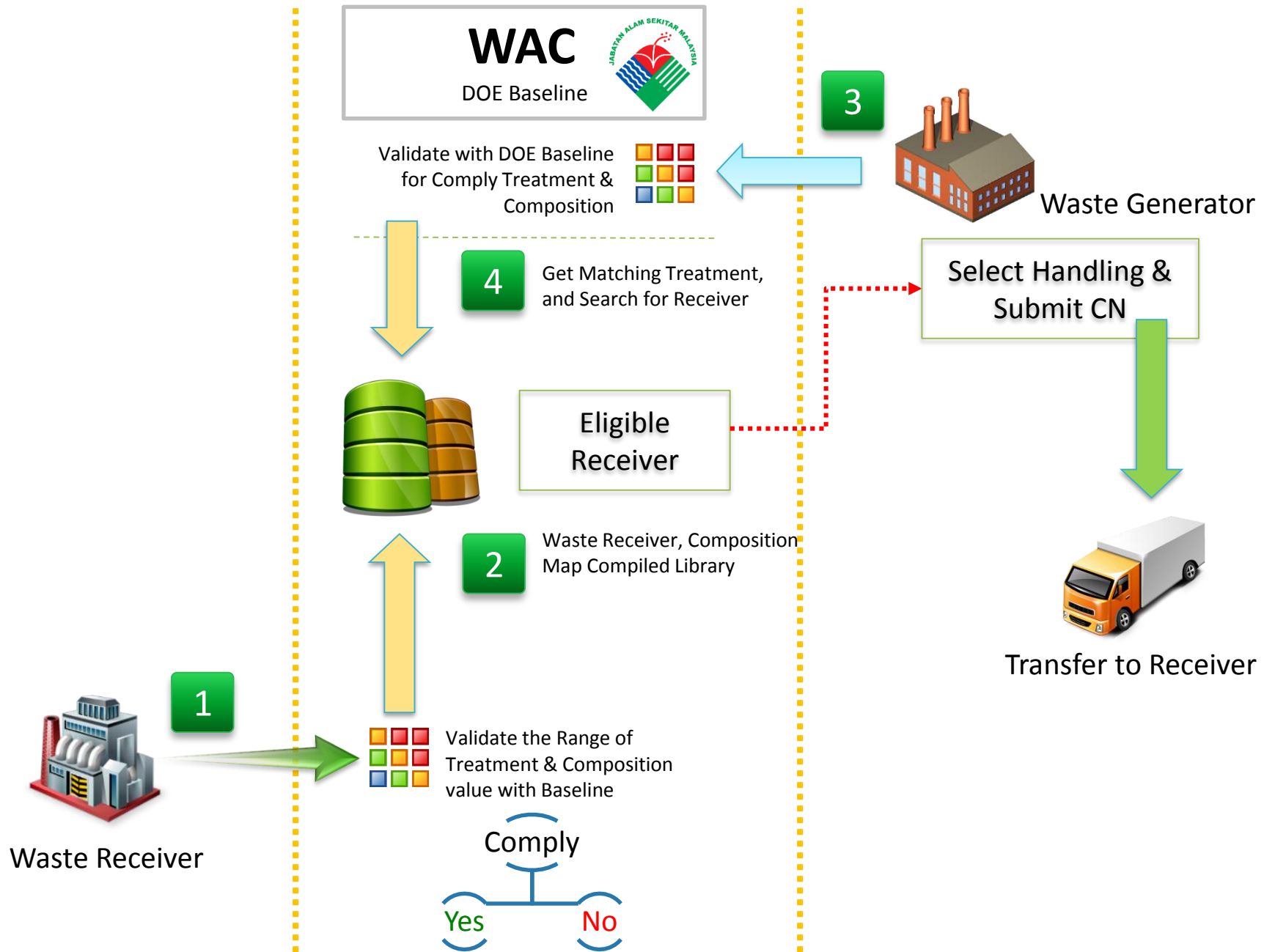
First validation on  
the Waste  
allowed Recycle

2

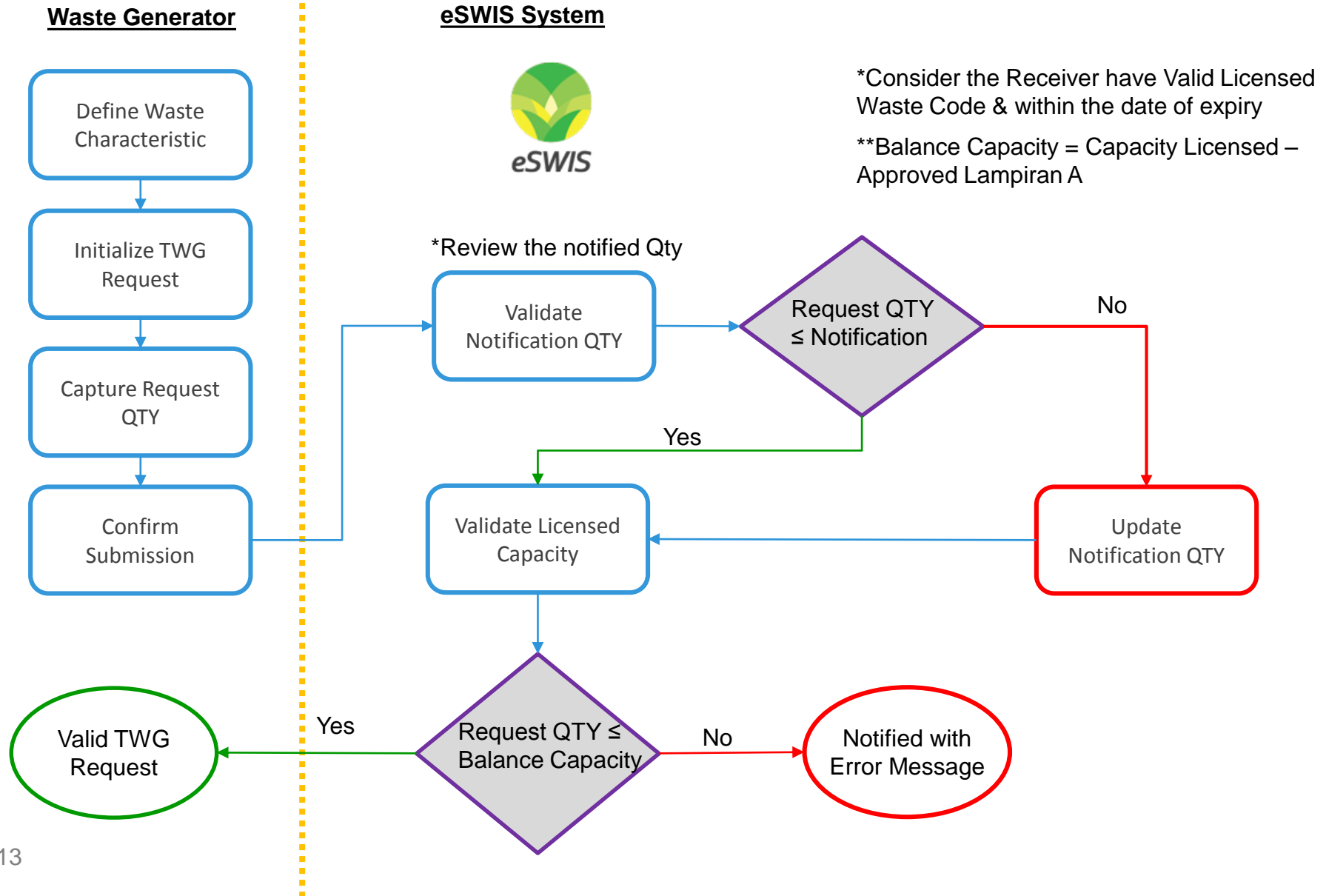
Mapping  
Composition to  
Possible Treatment

3

Final options if no  
possible handling types  
fits in

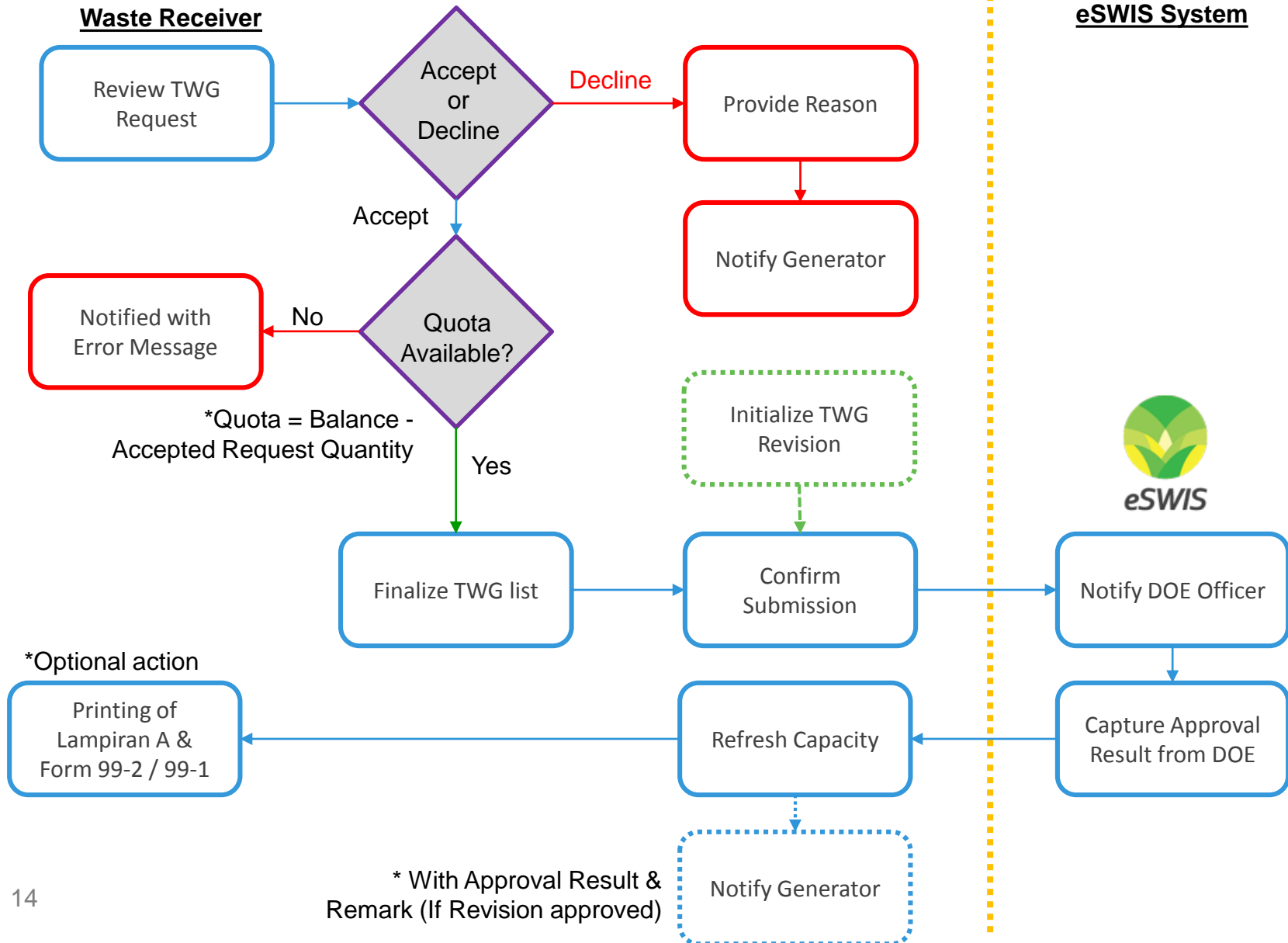


# Validation Process within TWG - Generator





# Receiver Process within TWG



# Preview of Waste Acceptance Baseline

Waste Acceptance Baseline \*

Page 2 of 4 (74 items) 1 2 3 4

Waste Code	Waste Type
SW315	Solid
SW315	Liquid
SW316	Solid
SW317	Solid
SW317	Liquid
SW318	Solid
SW318	Liquid

Treatment Technology \*

Insert/Add

Blending  
Chemical Reaction  
Co-Processing  
Electrolysis  
Hydro Metallurgy  
Incineration  
Neutralisation

admin DOE

Waste Type	Total Component	Submitted By	Submitted Date
204			

Component \*

Insert/Add

Component	Unit	Mode ⓘ	Min	Max
Moisture (Moisture)	%	-	5.00	85.00
Total Solids (TS) (TS)	%	D	15.00	100.00
Flash Point (FP)	°C	D	100.00	300.00
Aluminium (Al)	mg/kg	-	350.00	3750...
Arsenic (As)	mg/kg	D		1.00
Barium (Ba)	mg/kg	D		4.00
Beryllium (Be)	mg/kg	-		1.20
Boron (B)	mg/kg	D		2.00
Cadmium (Cd)	mg/kg	NN		0.02
Chromium, Total (Cr)	mg/kg	NN	25.00	105.00

Component

Chromium, Total (Cr)

Unit

mg/kg

Mode ⓘ

NN

Min

25.00

Max

105.00



Update Cancel

# Preview of Waste Acceptance Criteria for Receiver

[Back](#) [Save](#) [Unit Converter](#)

estcalco2 ESTALCO SDN. BHD.

### Waste Acceptance Criteria \*



PEROKSIDA ORGANIK

1

2

[Click below links to download:](#)  
[Label](#) [Form](#)  
Actual Sized Template

Waste Code : SW204      Waste Type : Solid

Sludges containing one or several metals including chromium, copper, nickel, zinc, lead, cadmium, aluminium, tin, vanadium and beryllium

Ref Code   
Note

Recovery   Disposal

Offered Treatment / Service  
[+ Insert/Add](#)  
\*Please Click to Select The Treatment

#	Treatment
1	Incineration

Offered Treatment : Incineration  
Composition Map 

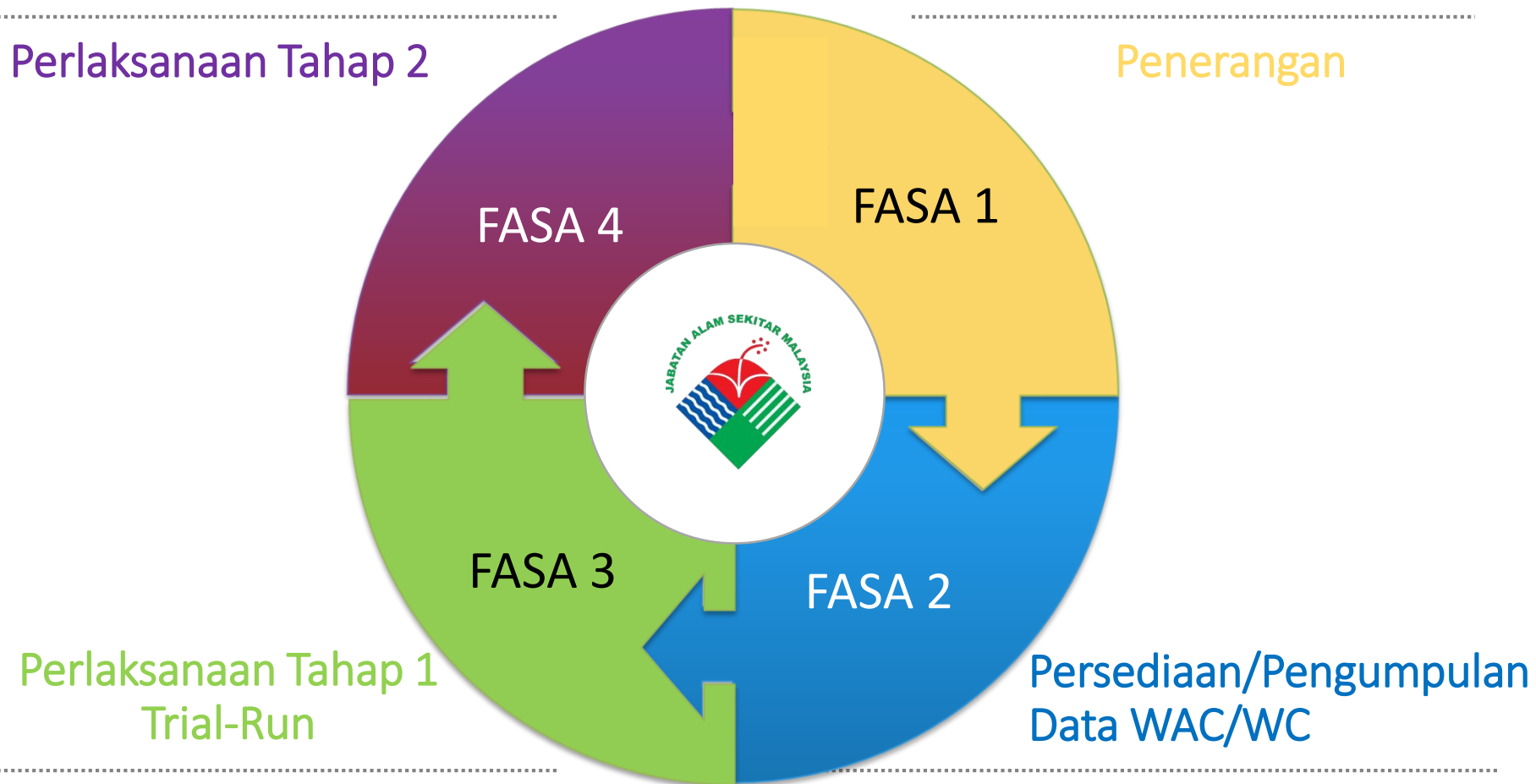
% Product    % Residue

Component	Unit	NIL	Min	%	Max	%
<a href="#">Moisture (Moisture)</a>	%	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	20.00	<input type="checkbox"/>
<a href="#">Aluminium (Al)</a>	mg/kg	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	100.00	<input type="checkbox"/>
<a href="#">Beryllium (Be)</a>	mg/kg	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	1.20	<input type="checkbox"/>
<a href="#">Lead (Pb)</a>	mg/kg	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	155.00	<input type="checkbox"/>
<a href="#">Nickel (Ni)</a>	mg/kg	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	12000.00	<input type="checkbox"/>
<a href="#">Cadmium (Cd)*</a>	mg/kg	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	0.02	<input type="checkbox"/>
<a href="#">Chromium, Total (Cr)*</a>	mg/kg	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	105.00	<input type="checkbox"/>
<a href="#">Cobalt (Co)*</a>	mg/kg	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	33000.00	<input type="checkbox"/>

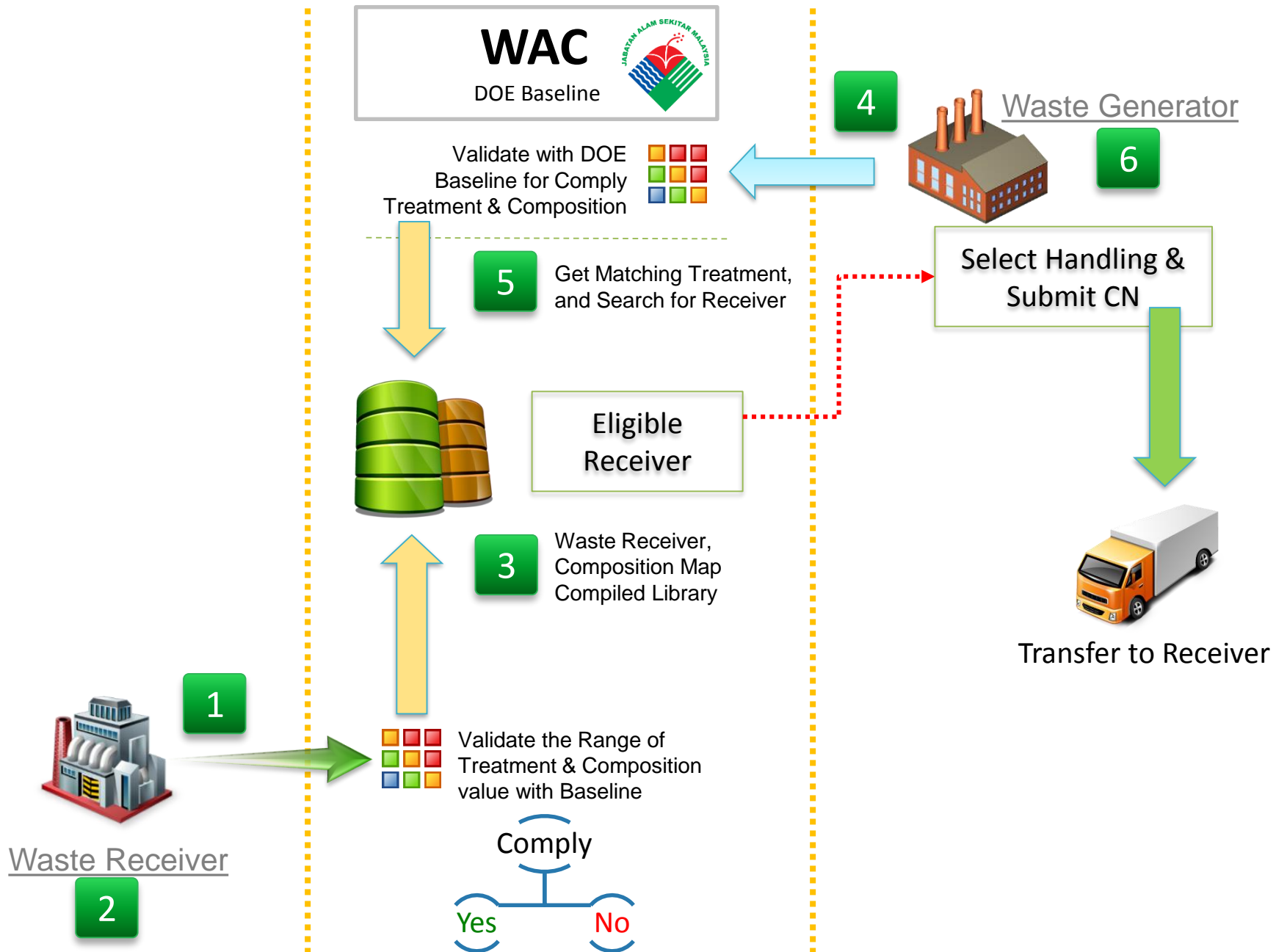
## Waste Composition/ Waste Acceptance Criteria



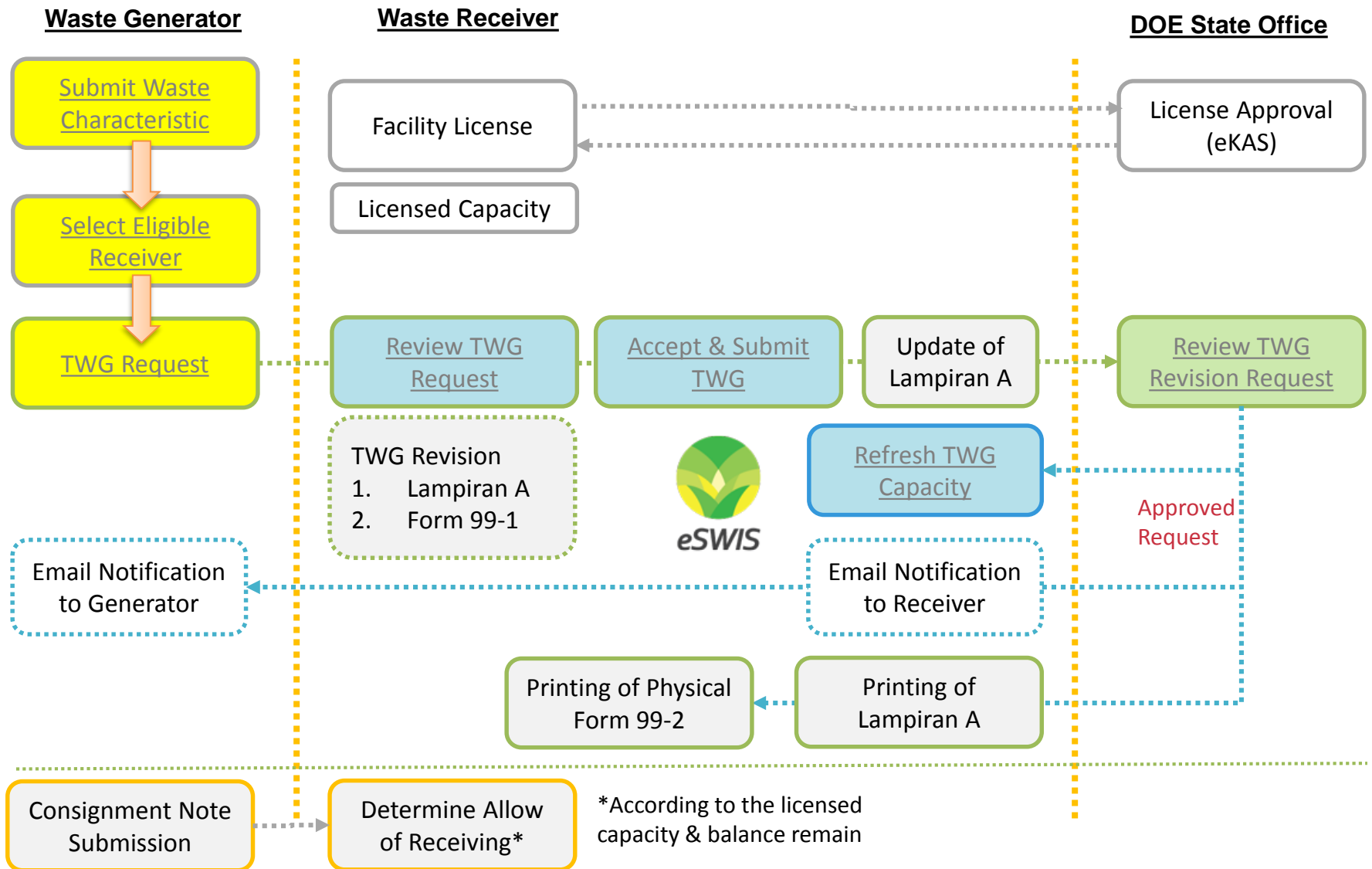
# ***WAC/ TWG Submission : Module Implementation***



# **Video Demonstration**



# TWG Operational Process Overview





# Demonstration video

- Lampiran A
- Lampiran E



Thank you.  
Q & A

