

MT FOC Technical Specification

NBS Integration Extension

Prepared For

Trade Operations Team
Nestlé (Thai) Ltd.

Prepared By

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Version History

Version	Date	Author	Description
1.0	December 2, 2025	Nick Chamnong	Initial release - NBS Integration Extension documentation

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1. Scope of Work

This extension adds the following functions to the existing MT FOC application:

1. **Reject Function** - Change FOC request status to Cancel and send email notification to Requester with rejection reason
2. **Export XML Function** - Generate NBS-compliant E2O XML files for SAP integration
3. **Send Mail Function** - Send email to NBS containing:
 - o XML file attachment sent to NBS
 - o PDF attachment summarizing the order form
 - o Link to Power App
4. **Auto Ref Sheet Function** - Automatically populate order details by reading from attached Excel files in SharePoint

1.1 System Architecture

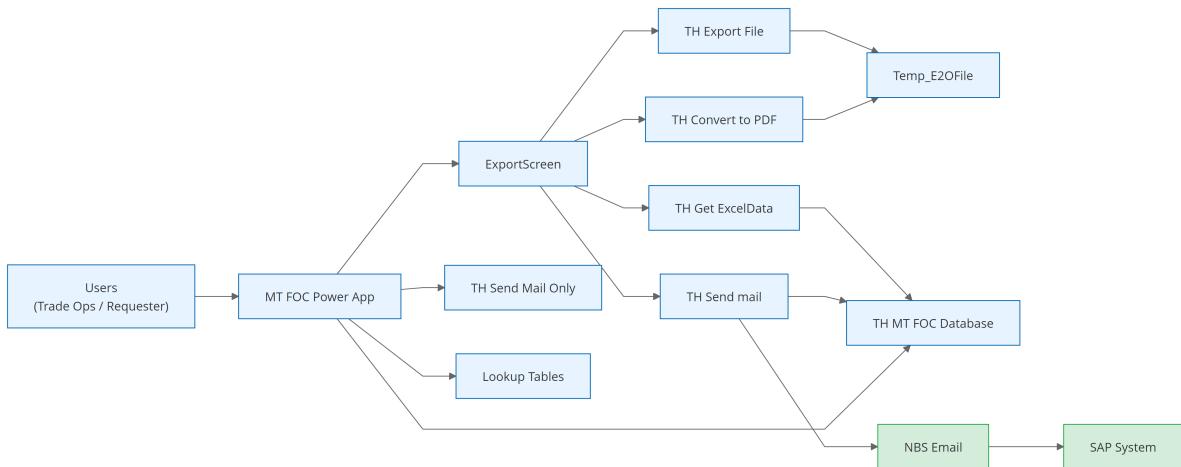


Figure 1.1: System Architecture Overview

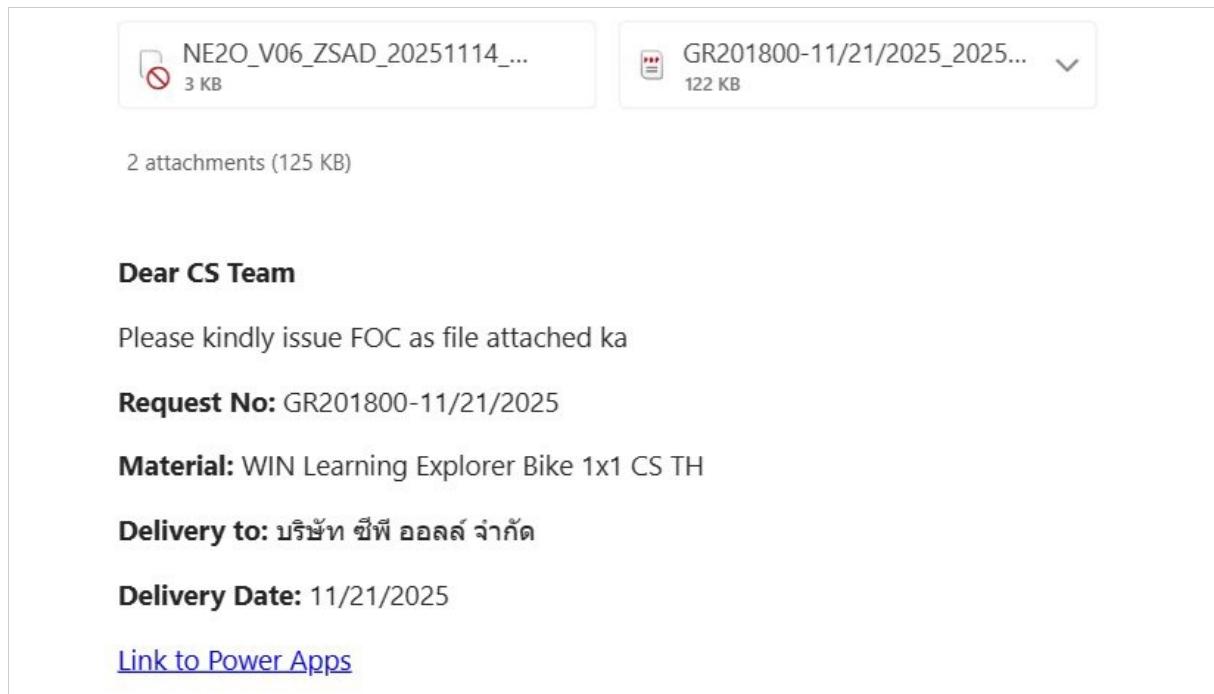


Figure 1.2: Sample Email sent to NBS with XML and PDF attachments

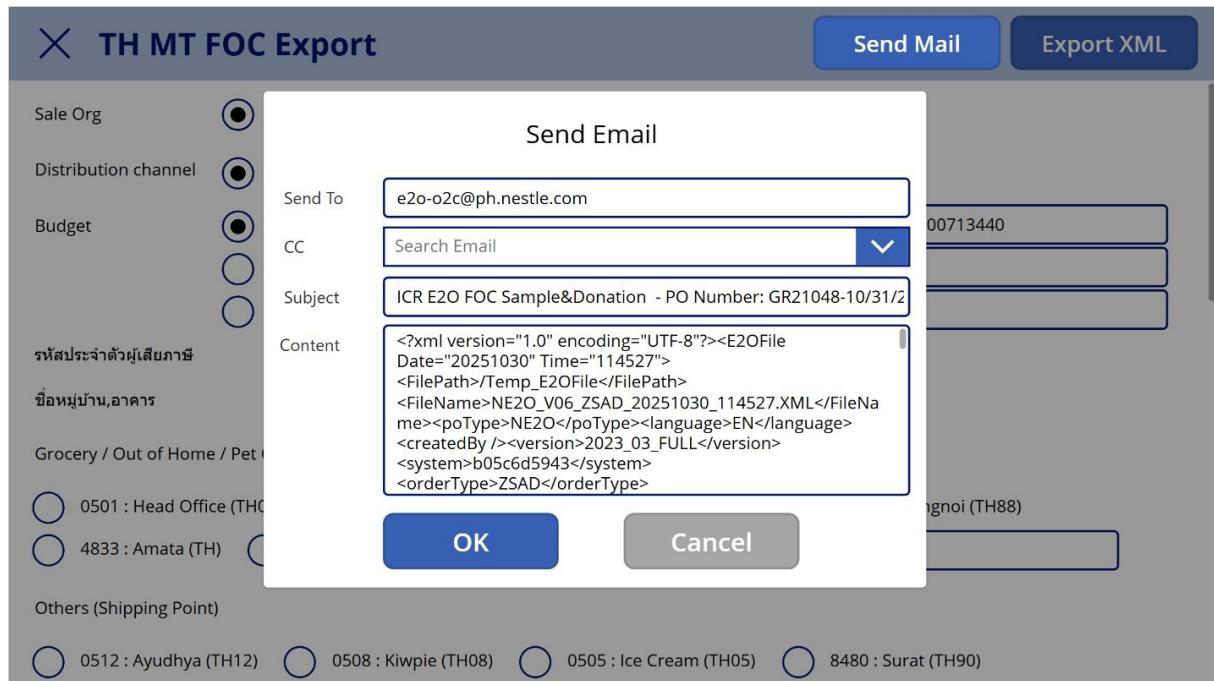


Figure 1.3: Send Email Dialog with XML Content Preview

2. New Screen: ExportScreen

The extension adds one new screen called **ExportScreen**, accessible from the Request Detail screen by clicking the **Export E2O** button. This screen is used for viewing additional request details before export and allows editing of order information.

The screenshot shows the 'TH MT FOC Database' request detail screen. At the top right are buttons for 'Reject', 'Export E2O' (which is highlighted in blue), and 'Edit'. The 'Requester' field contains 'Narumon.Kongnamoo@th.nestle.com'. Below it, 'RequestNo.' is 'GR21048-11/28/2025' and 'RequestDate' is '11/25/2025'. A section titled 'Customer Details:' contains fields for 'SaleOrg' ('TH18 Nestle (Thai)'), 'Distribution channel' ('01 Retail'), 'TaxID' ('21048'), 'Building' ('อาคารตีอฟพีศเสส แอนด์ เบ็นท์ลเวลล์'), 'Address' (''), and 'Road' ('').

Figure 2.1: Request Detail Screen with Export E2O button

The screenshot shows the 'TH MT FOC Export' screen. At the top right are buttons for 'Send Mail' and 'Export XML'. The 'Sale Org' section has 'TH18 Nestle (Thai)' selected. The 'Distribution channel' section has '01 Retail' selected. The 'Budget' section has 'Non PFME (Manual VAT & WT if any)' selected. The 'WBS element/Campaign ID (Activity ID)' field contains 'T-52204130'. The 'Grocery / Out of Home / Pet Care (Shipping Point)' section has '8301 : Wangnoi (TH88)' selected. The 'Others (Shipping Point)' section has '8480 : Surat (TH90)' selected.

Figure 2.2: ExportScreen - Section 1: Basic Export Settings

2.1 OnVisible Initialization

```
UpdateContext({  
    lang: "EN",           // Language code  
    potp: "NE20",         // PO Type  
    vers: "2023_03_FULL", // Schema version  
    PProf: "THEXCLORD1", // Partner Profile  
    Syst: "b05c6d5943",   // System identifier  
    txtid1: "Z045",       // Text ID for header notes  
    ptidWE: "WE"          // Partner Type (Ship-to)  
});
```

2.2 Screen Layout

The ExportScreen is divided into 3 main sections:

Section 1: Basic Export Settings

- Sale Org (TH18 Nestle Thai / MM11 Myanmar)
- Distribution Channel (01 Retail / 02 Out of Home / 05 Export)
- Budget Type (PFME / Non-PFME Manual VAT & WT / Non-PFME Donation)
- Tax ID
- Building/Village Name
- Shipping Point (Warehouse selection)

Section 2: Tax Codes Verification

The screenshot shows the 'TH MT FOC Export' application interface. At the top, there are two buttons: 'Send Mail' and 'Export XML'. Below this is the 'Tax Codes Verification' section, which contains several dropdown menus and input fields. The 'BU' field is set to 'Non Pet care'. The 'กิจกรรม' (Activity) field has a dropdown menu showing '6.ให้ของ premium ที่มีค่าฯ ".....ห้ามจำหน่าย" / ให้ Cash voucher (The Mall, Central, Big C, Lotus etc.)'. The 'ผู้รับ' (Recipient) field has a dropdown menu showing '1) ผู้ค้าที่เปิด PO ซื้อสินค้าจากบริษัทเนสท์เล่โดยตรง'. The 'VAT Rate' section includes fields for 'ยกเว้น' (Exempt), 'WT Rate' (which is empty), and another 'ยกเว้น' field. The 'Remarks' and 'Reason code' fields are also present. Below this section is the 'Ref Sheet' section, which includes fields for 'Sold-To' (21048), 'Ship-To' (21048), 'Address' (Nestle HO - Central World), 'Header Note' (empty), 'Material Number' (105973716), 'Quantity' (1), 'UoM' (radio buttons for CS, DSP, EA, with CS selected), 'RDD Date' (11/12/2025), 'PO no.' (GR21048-10/31/20), 'Specific Batch?' (checkbox), 'Batch' (empty input field), and a 'Delete' icon.

Figure 2.3: ExportScreen - Section 2: Tax Codes Verification (with Ref Sheet below)

- BU (Business Unit): Pet care / Non Pet care

- Activity: Various activity types for reason code lookup
- Recipient: Recipient type for reason code lookup
- VAT Rate / WT Rate: Automatically populated from VAT_WT lookup
- Reason Code: Calculated result used in XML generation

Section 3: Ref Sheet (Order Details)

X TH MT FOC Export

Tax Codes Verification

BU	Non Pet care	▼		
กิจกรรม	6. ให้ของ premium ที่มีค่า ".....ห้ามจำหน่าย" / ให้ Cash voucher (The Mall, Central, Big C, Lotus etc.)			
ผู้รับ	1) ศูนย์ที่เปิด PO ซื้อสินค้าจากบริษัทเนสท์แล็ตเตอร์			
VAT Rate	ยกเว้น	WT Rate	ยกเว้น	▼
Remarks				
Reason code	ZSAD: SC Samples To Consumer (VAT 0%, WT 0%)			

Ref Sheet

Sold-To	21048	Ship-To	21048	Address	Nestle HO - Central World	Header Note	จัดส่ง ป้อนต์ นกมล ทีม Chan
Material Number	106017942	Quantity	1	UoM	<input checked="" type="radio"/> CS <input type="radio"/> DSP <input type="radio"/> EA		
RDD Date	11/28/2025	PO no.	GR21048-11/28/2025	Specific Batch?	<input type="checkbox"/>	Batch	<input type="button" value="Delete"/>

Figure 2.4: ExportScreen - Section 3: Ref Sheet (Order Details)

- Order item gallery with Add/Delete functionality
- Auto Ref Sheet button to import from Excel attachment

2.3 Key Controls

Control	Type	Purpose
Rad_saleOrg	RadioGroup	Sales Organization selection
Rad_distChannel	RadioGroup	Distribution Channel selection
Rad_budget	RadioGroup	Budget type selection
Rad_sp0	RadioGroup	Grocery/Out of Home Shipping Points
Rad_sp1	RadioGroup	Others Shipping Points
Dropdown_BU	Dropdown	Business Unit selection
Dropdown_activity	Dropdown	Activity type selection
Dropdown_recipient	Dropdown	Recipient type selection
Dropdown_WTRate	Dropdown	Withholding Tax Rate
Text_reasonCode	TextInput	Displays calculated Reason Code
Gallery_OrderList	Gallery	Displays order items
Button: Send Mail	Button	Opens email dialog and sends to NBS
Button: Export XML	Button	Generates and downloads XML file
Button: Auto Ref Sheet	Button	Reads attachment and populates order items

2.4 Shipping Point Options

Grocery / Out of Home / Pet Care:

Code	Description
0501	Head Office (TH01)
0509	Wyeth (TH08)
0516	Bang Phli (TH16)
8301	Wangnoi (TH88)
4833	Amata (TH)
0511	Market Hygiene (TH11)

Others:

Code	Description
0512	Ayudhya (TH12)
0508	Kiwpie (TH08)
0505	Ice Cream (TH05)
8480	Surat (TH90)

2.5 Order List Collection Structure

Orders are stored in the `OrderList` collection:

```
{  
    "cust": "1234567890",           // Customer (Sold-to) code  
    "po": "GR21048-11/28/2025",     // PO Number (RequestNo)  
    "rqdt": "20251128",             // Request delivery date (yyyymmdd)  
    "txt1": "Header note",          // Header text (Contact Person)  
    "ptnbWE": "1234567890",         // Ship-to party code  
    "Name": "Customer Name",        // Sold-to name  
    "Street": "Road/Street",         // Road address  
    "Num": "123",                  // House/Building number  
    "City": "Bangkok",              // Province  
    "Street4": "Subdistrict",        // Subdistrict (Khwaeng)  
    "Distr": "District",            // District (Khet)  
    "mat": "12345678",              // Material code  
    "matName": "Product Name",      // Material description  
    "qty": 100,                     // Quantity  
    "uom": "CS",                   // Unit of measure (CS/DSP/EA)  
    "sBatch": ""                   // Batch number (optional)  
}
```

2.6 Order Grouping Logic

When generating XML, orders are grouped by Customer (Sold-to) and Ship-to Party:

```
GroupBy(
    SortByColumns(OrderList, "cust", SortOrder.Ascending, "ptnbWE", SortOrder.Ascending),
    "cust",           // Group by Customer code
    "ptnbWE",         // Group by Ship-to party
    "ItemsInGroup"
)
```

Each unique combination of `cust` + `ptnbWE` creates one `<order>` element in the XML.

3. User Workflow

3.1 Overall Process Flow

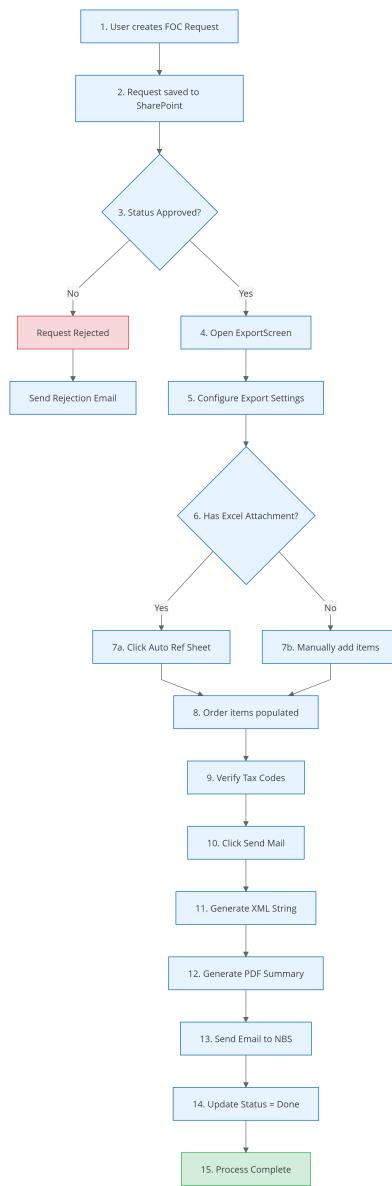


Figure 3.1: MT FOC Extension Workflow

3.2 When User Clicks "Auto Ref Sheet"

When the user clicks the **Auto Ref Sheet** button, the system reads Excel attachments from SharePoint and automatically populates the order list. The workflow is shown in Figure 3.2 below.

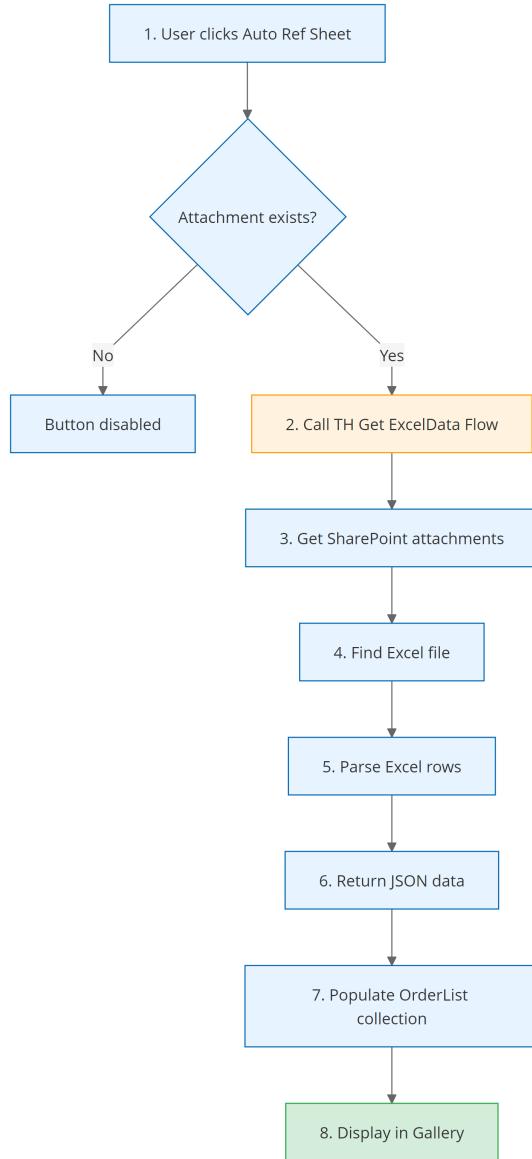


Figure 3.2: Auto Ref Sheet Workflow

The system calls Flow '**TH Get ExcelData From Upload**' to read Attach Files, then returns JSON data and populates the Order list. If no attachment exists, the button is disabled.

3.3 When User Clicks "Export XML"

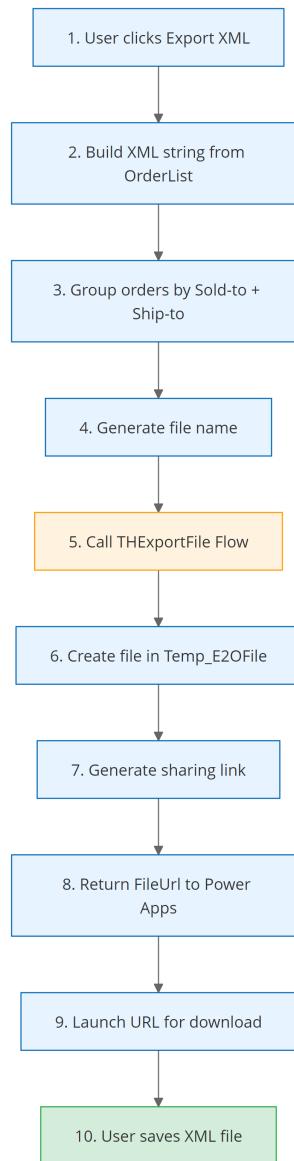


Figure 3.3: Export XML Workflow

File Name Format: NE20_V06_[OrderType]_[Date]_[Time].XML

Example: NE20_V06_ZSAD_20251128_143052.XML

3.4 When User Clicks "Send Mail" → Confirm

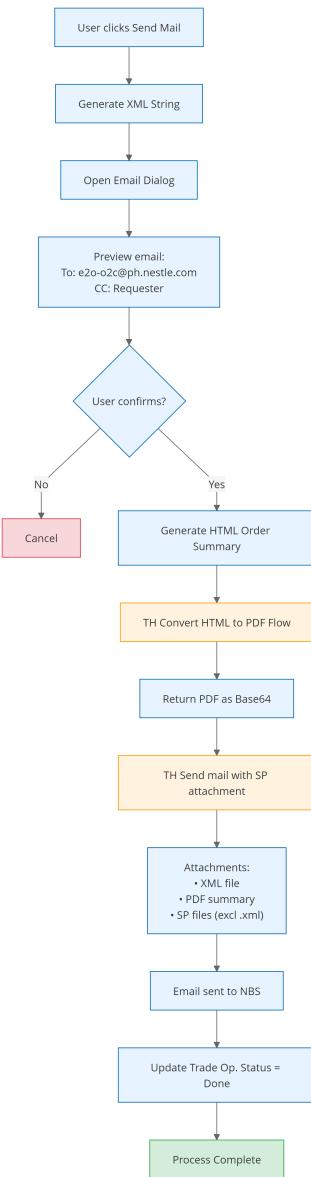


Figure 3.4: Send Mail Workflow

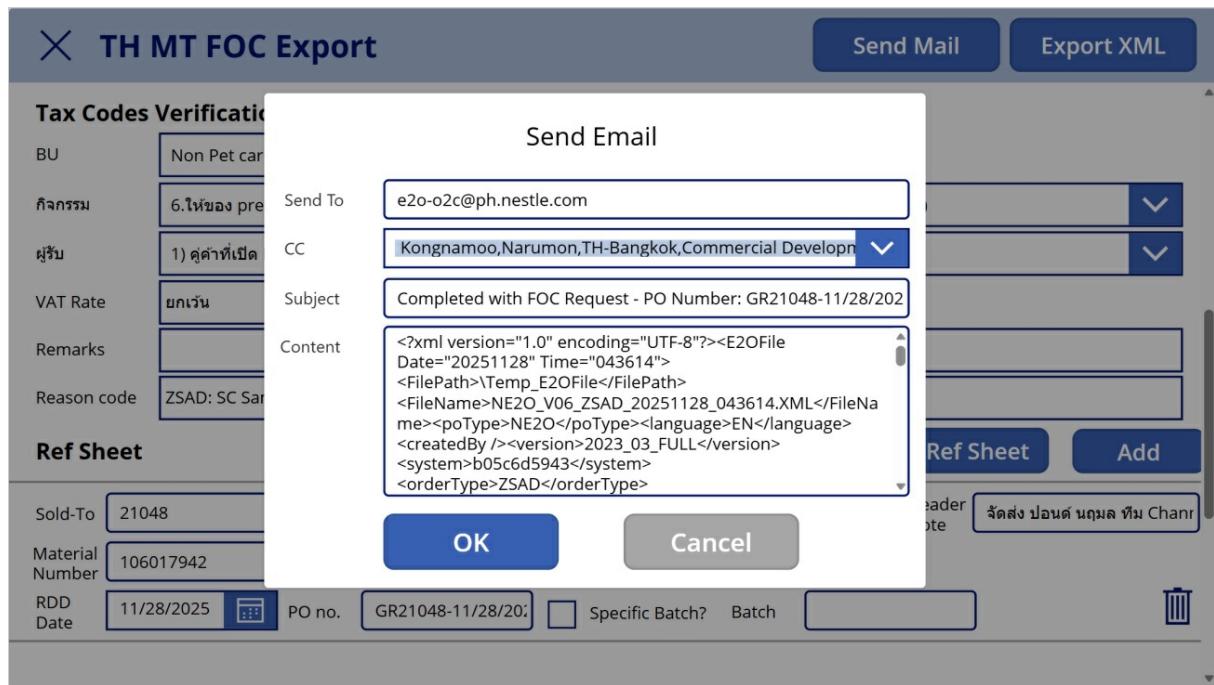


Figure 3.5: Send Email Dialog

4. SharePoint Updates

The following SharePoint components were added for this extension:

4.1 New Column in TH MT FOC Database

Column	Internal Name	Type	Purpose
OrderList_json	OrderList_json	Multiple lines of text	Stores order details JSON required for XML export

4.2 New Lists

TransportationCode List

Maps Thai geographic names to SAP Transportation Zone codes.

Column	Type	Description
Title	Text	Province/District/Subdistrict name (Thai)
Country	Text	Country code (TH)
Transportation Zone	Text	SAP zone code (e.g., TH81000000)

ReasonCode List

Maps activity combinations to SAP Reason Codes.

Column	Type	Description
Match2	Text	Concatenated lookup key (BU + Activity + Recipient)
Reason	Text	Full reason code with description

VAT_WT List

Maps activity combinations to VAT and Withholding Tax rates.

Column	Type	Description
Match	Text	Concatenated lookup key
VAT	Text	VAT rate percentage or "exempt"
WT	Text	Withholding tax rate or "exempt"

4.3 New Document Library

Library	Path	Purpose
Temp_E2OFile	/Temp_E2OFile	Temporary storage for generated XML and PDF files

Site URL: <https://nestle.sharepoint.com/teams/THMTFOCRequestForm>

5. Power Automate Flows

Four new Cloud Flows were added, all are **instant cloud flows** with PowerAppV2 trigger:

5.1 TH Export File (THExportFile)

Solution Name: THExportFile-70F6C649-A68F-F011-B4CB-7CED8D41B3AD

Purpose: Create XML file in SharePoint and return organization-scoped sharing link for download.

Connections:

- SharePoint Online (2 connections for file creation and sharing link)

Input Parameters:

Parameter	Type	Required	Description
FileContent	Text	Yes	Complete XML content string
FileName	Text	Yes	File name (e.g., NE2O_V06_ZSAD_20251128_120000.XML)

Flow Diagram:

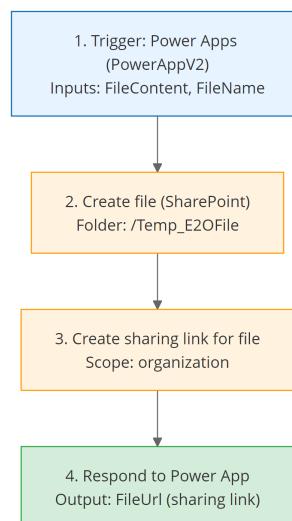


Figure 5.1: TH Export File Flow

Output:

Property	Type	Description
FileUrl	Text	SharePoint organization-scoped sharing link for download

5.2 TH Get ExcelData From Upload

Purpose: Read Excel attachment from SharePoint list item and return parsed data as JSON.

Input Parameters:

Parameter	Type	Required	Description
ItemId	Number	Yes	SharePoint list item ID

Flow Diagram:

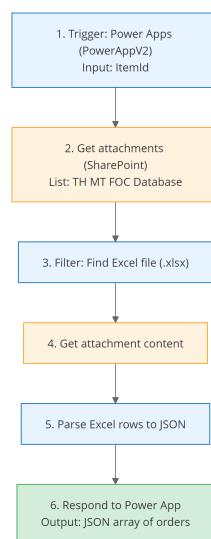


Figure 5.2: TH Get ExcelData Flow

Output:

Property	Type	Description
orderData	Text (JSON)	JSON array of order items parsed from Excel

5.3 TH Send mail with SharePoint attachment (THSendmailwithsharepointattachment)

Solution Name: THSendmailwithsharepointattachment-0F60AB63-1DBE-F011-BBD3-7CED8D418C94

Purpose: Send email to NBS with SharePoint list attachments plus XML and PDF files.

Connections:

- SharePoint Online (get attachments)
- Office 365 Outlook (send email)

Input Parameters:

Parameter	Type	Required	Description
SharePointListItemID	Number	Yes	ID of the FOC request list item
EmailTo	Text	Yes	Primary recipient (default: e2o-o2c@ph.nestle.com)
CC	Text	Yes	CC recipients
EmailSubject	Text	Yes	Email subject line
EmailBody	Text	Yes	HTML body content
FileName1	Text	Yes	XML file name
FileContent1	Text	Yes	XML file content
FileName2	Text	Yes	PDF file name
FileContent2	Text	Yes	PDF content (Base64)

Flow Diagram:

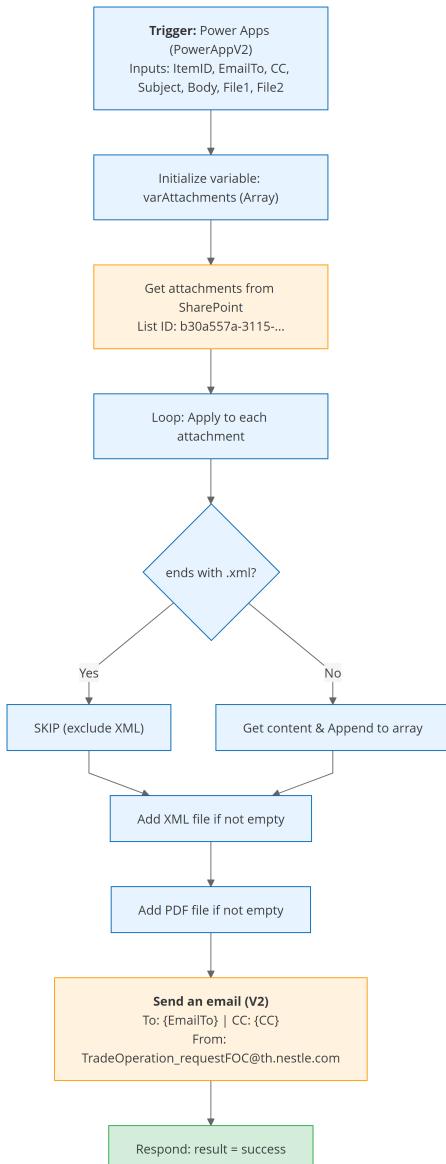


Figure 5.3: TH Send Mail Flow

Special Logic:

- **XML Exclusion:** Existing .xml attachments from the SharePoint list item are excluded (filtered out)
- **Base64 Conversion:** FileContent2 (PDF) is converted from Base64 to binary before attaching
- **Sender Address:** Fixed as TradeOperation_requestFOC@th.nestle.com

Output:

Property	Type	Description
result	Text	"success" on completion

5.4 TH Convert HTML to PDF (THConvertHTMLtoPDF)

Solution Name: THConvertHTMLtoPDF - 2CA80411-C4A8-F011-BBD3-7CED8D418C94

Purpose: Convert HTML content to PDF and return as Base64-encoded content.

Connections:

- OneDrive for Business (create temp file, convert, delete)
- SharePoint Online (store converted PDF)

Input Parameters:

Parameter	Type	Required	Description
HtmlContent	Text	Yes	HTML string to convert to PDF

Flow Diagram:

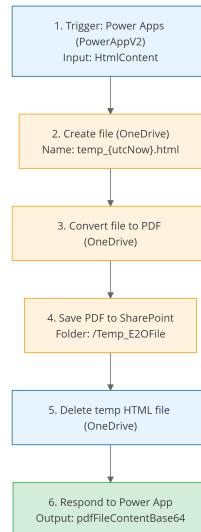


Figure 5.4: TH Convert HTML to PDF Flow

Output:

Property	Type	Description
pdfFileContentBase64	Text	Base64-encoded PDF file content

5.5 TH Send Mail Only (THSendMailOnly)

Solution Name: THSendMailOnly-A90F8AAE-79BE-F011-BBD3-7CED8D418C94

Purpose: Simple email notification without attachments - used for rejection notifications.

Connections:

- Office 365 Outlook

Input Parameters:

Parameter	Type	Required	Description
SendTo	Text	Yes	Recipient email address
Subject	Text	Yes	Email subject line
Body	Text	Yes	HTML body content

Flow Diagram:

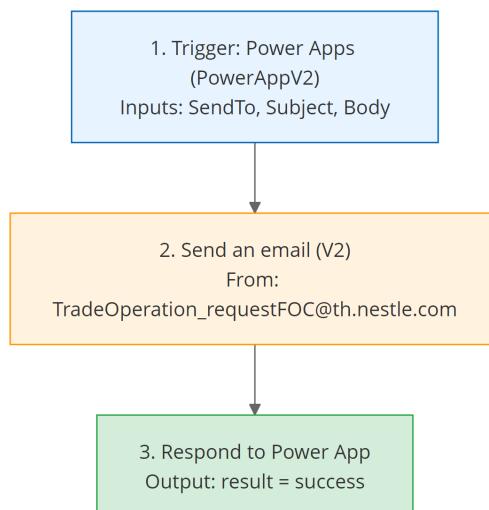


Figure 5.5: TH Send Mail Only Flow

Usage: Used for Reject function to notify Requester of cancellation with reason.

Output:

Property	Type	Description
result	Text	"success" on completion

5.6 Flow Connection References

Connection Reference	API	Used By
new_sharedsharepointonline_7cae2	SharePoint Online	THConvertHTMLtoPDF, THSendmail
new_sharedsharepointonline_bf199	SharePoint Online	THExportFile
new_sharedonedriveforbusiness_05fdf	OneDrive for Business	THConvertHTMLtoPDF
new_sharedoffice365_f1ab1	Office 365 Outlook	THSendMailOnly, THSendmail

6. XML Schema Specification

6.1 File Naming Convention

Format: NE20_V06_[OrderType]_[Date]_[Time].XML

Component	Description	Example
NE20	PO Type (fixed)	NE20
V06	Version indicator	V06
OrderType	First 4 chars of Reason Code	ZSAD
Date	YYYYMMDD format	20251128
Time	HHMMSS format	143052

6.2 Complete XML Structure

```
<?xml version="1.0" encoding="UTF-8"?>
<E20File Date="20250718" Time="111213">
    <FilePath>\Temp_E20File</FilePath>
    <FileName>NE20_V06_ZSAD_20250718_111213.XML</FileName>
    <poType>NE20</poType>
    <language>EN</language>
    <createdBy />
    <version>2023_03_FULL</version>
    <system>b05c6d5943</system>
    <orderType>ZSAD</orderType>
    <PartnerProfile>THEXCLORD1</PartnerProfile>
    <Order OrderSequencial="1">
        <hdrSalesOrg>TH18</hdrSalesOrg>
        <hdrDistChannel>01</hdrDistChannel>
        <!-- ... header fields ... -->
        <AddressOneTimeCustomer>
            <!-- Only for customer 10401 or 10150 -->
        </AddressOneTimeCustomer>
        <Item Sequencial="1">
            <!-- ... item fields ... -->
        </Item>
    </Order>
</E20File>
```

6.3 E2OFile Tag Details

Tag	Description
FilePath	Folder path for file storage (\Temp_E2OFile)
FileName	Generated file name
poType	PO Type (NE2O)
language	Language (EN)
createdBy	Leave empty
version	Version (2023_03_FULL)
system	System identifier (b05c6d5943)
orderType	Order Type (first 4 characters from Reason code)
PartnerProfile	Partner Profile (THEXLORD1)
Order	List of Orders (grouped by Sold-to + Ship-to)

6.4 Order Tag Details

Tag	Description
hdrSalesOrg	Sales Org (first 4 characters)
hdrDistChannel	Distribution Channel (first 2 characters)
hdrPOType	PO Type (NE2O)
hdrCustomer	Sold-To Number
hdrPONumber	Document Number (RequestNo)
hdrReqDelDate	Delivery Date (format "yyyymmdd")
hdrOrdReason	Order Reason (2 characters after ':' from Reason code)
hdrTxtID1	Text ID (Z045)
hdrTextValue1	Bill footer note (Contact Person)
hdrPartnerID1	Partner Type (WE)
hdrPartnerNumber1	Ship-To Number
hdrPlant	Shipping Point (first 4 characters, zero-padded)
hdrCostCenter	Cost Center (only if Budget = Non PFME Donation)
hdrCurrency	Currency (see logic in Section 7)

6.5 AddressOneTimeCustomer Tag Details

Condition: Only included when customer code is "10401" or "10150" (one-time customers)

Tag	Description
PartnerType	Partner Type (WE)
PartnerNumber	Ship-To Number
addrName1	Sold-to name
addrName2	Building name
addrStreet1	Road
addrStreet4	Subdistrict
addrCity	Province
addrNumber	Address (house number)
addrDistrict	District
addrTzone	Transportation Zone (from lookup)
addrTxNb1	TaxID (13 digits)

6.6 Item Tag Details

Tag	Description
itmMaterial	Material Code
itmQuantity	Amount (quantity)
itmUOM	Unit of Measure (CS, DSP, or EA)
itmBatch	Batch number (if Specific Batch checked)
itmWBS	WBS/TAV number

7. Business Logic Reference

7.1 Currency Determination

```
Currency = If(
    DistributionChannel = "05", // Export channel
    "USD",
    If(
        SalesOrg = "TH18", // Thailand Sales Org
        "THB",
        "MMK" // Myanmar Kyat default
    )
)
```

Distribution Channel	Sales Org	Currency
05 (Export)	Any	USD
01, 02	TH18	THB
01, 02	MM11	MMK

7.2 Order Type and Reason Code Parsing

Source Format: ZSAD: SC Samples To Consumer (VAT 0%, WT 0%)

```
// Order Type: First 4 characters
orderType = Left(ReasonCode, 4) // "ZSAD"

// Order Reason: 2 characters after ":" 
orderReason = Mid(ReasonCode, 7, 2) // "SC"
```

7.3 Shipping Point (Plant) Formatting

The plant code must be zero-padded to 4 digits:

```
plant = With(
    { rawPlant: Left(SelectedWarehouse, 4) },
    Switch(
        Len(rawPlant),
        1, "000" & rawPlant,
        2, "00" & rawPlant,
        3, "0" & rawPlant,
        rawPlant
    )
)
```

Input	Output
"501"	"0501"
"8301"	"8301"

7.4 Transportation Zone Lookup

The system performs a cascading lookup to find the transportation zone:

```
TransportationZone = With(
    { vProvinceZone: LookUp(TransportationCode, Title = Province) },
    If(
        Not(IsBlank(vProvinceZone.'Transportation Zone')),
        vProvinceZone.'Transportation Zone',
        // Fallback to District
        With(
            { vDistrictZone: LookUp(TransportationCode,
                Title = Substitute(District, "ເ.", "") } ),
            If(
                Not(IsBlank(vDistrictZone.'Transportation Zone')),
                vDistrictZone.'Transportation Zone',
                // Fallback to Subdistrict
                LookUp(TransportationCode,
                    Title = Substitute(Subdistrict, "ແຂວງ", "")).'Transportation Zone'
            )
        )
    )
)
```

Lookup Priority:

1. Province (City field)
2. District (removes "ເ." prefix)
3. Subdistrict (removes "ແຂວງ" prefix)

7.5 Unit of Measure Conversion

Thai Input	English Output	Description
ສັງ, CS, cs	CS	Case
ກລອງ, DSP, dsp	DSP	Display
ໝັນ, ES, EA, es, ea	EA	Each

7.6 One-Time Customer Detection

```
IsOneTimeCustomer = cust = "10401" Or cust = "10150"
```

When true, the `<AddressOneTimeCustomer>` element is included with full address details.

Appendix A: Fixed Values Reference

Parameter	Value	Description
lang	EN	Language code
potp	NE2O	PO Type
vers	2023_03_FULL	Schema version
PProf	THEXCLORD1	Partner Profile
Syst	b05c6d5943	System identifier
txtid1	Z045	Text ID for header notes
ptidWE	WE	Partner Type (Ship-to)

Appendix B: NBS Integration Details

Parameter	Value
NBS Email	e2o-o2c@ph.nestle.com
Sender Email	TradeOperation_requestFOC@th.nestle.com
Email Subject Format	ICR E2O FOC Sample&Donation - PO Number: {RequestNo}

Attachments:

1. XML file (NE2O_V06_*.XML)
2. PDF order summary
3. Any non-XML attachments from the SharePoint item

For technical support, contact Vector Dynamics Co., Ltd.