



**California Air Resources Board  
Refrigerant Management Program (RMP)  
Refrigerant Registration and Reporting System (R3)  
XML Process Updates**

January 24, 2014

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**Who uses XML**

- Companies with many facilities
- Facilities with many systems
- Facilities with many service records

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**Overview of XML Process**

- Powerful and fast
- Must be carefully implemented
- Information available on R3
  - Test Your XML
  - Example XML
  - Latest XSD
  - Mapped Excel spreadsheets (to be added)

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## Use of the XML



- Facility registration
- Refrigeration system registration
- ALD system registration
- Service record uploads

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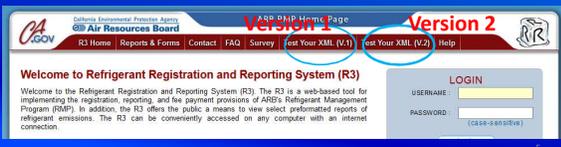
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## What has been updated



- No change to process
- Existing Version 1 XML files continue to work
- Added Version 2



The screenshot shows the R3 web interface. At the top, there is a navigation menu with links for 'R3 Home', 'Reports & Forms', 'Contact', 'FAQ', 'Survey', 'Get Your XML (V1)', 'Get Your XML (V2)', and 'Help'. Below the navigation menu is a 'LOGIN' section with fields for 'USERNAME' and 'PASSWORD'. The 'PASSWORD' field has a '(click to activate)' link next to it. The main content area contains a welcome message: 'Welcome to Refrigerant Registration and Reporting System (R3). The R3 is a web-based tool for implementing the registration, reporting, and fee payment provisions of ARB's Refrigerant Management Program (RMP). In addition, the R3 offers the public a means to view select preformatted reports of refrigerant emissions. The R3 can be conveniently accessed on any computer with an internet connection.'

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## What has been updated



- Added fields
  - Facility profile
    - Operation date
  - Refrigeration system detail
    - 'Has ALD'

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- <FacilityListing>
  - <FacilityProfile>
    <FacilityName>MY facility test19</FacilityName>
    <OperationDate>1967-08-13</OperationDate>
    <LocationAddress>
      <Line1>2000 dsfdsfdf PO Box Number</Line1>
      <Line2>Street No 200</Line2>
      <City>Sacramento</City>
      <State>CA</State>
  
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- <RefrigerantSystemDetail>
  <SystemID>Refrigeration System #1</SystemID>
  <InstallationDate>1967-08-13</InstallationDate>
  <ModelYear>1952</ModelYear>
  <ModelDescription>ABC LLC</ModelDescription>
  <ManufacturerName>Flakice</ManufacturerName>
  <EquipmentType>Refrigeration</EquipmentType>
  <SerialNumber>A-110011</SerialNumber>
  <Location>Outer Shell</Location>
  <TemperatureClass>Medium</TemperatureClass>
  <OperationalStatus>Shutdown</OperationalStatus>
  <FullChargeAmount>1000.0</FullChargeAmount>
  <RefrigerantType>R-11</RefrigerantType>
  <ChargeAmountDeterminedBy>Manual</ChargeAmountDeterminedBy>
  <HasALD>Yes</HasALD>
</RefrigerantSystemDetail>

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## What has been updated



- Added fields (continued)
  - Refrigeration system service records
    - Amount of new refrigerant added
    - Amount of refrigerant removed and not returned
    - (Removed net refrigerant amount field)
  - ALD service records
    - Added entire section

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- <ServiceRecordList>
- <ServiceRecordDetail>
  <ServiceDate>2010-08-13</ServiceDate>
  <ServiceRecord>Seasonal Adjustment</ServiceRecord>
  <LeakDetected>Yes</LeakDetected>
  <ServiceRefrigerantAdded>SeasonalRefrigerant</
  <RefrigerantAmountAdded>20.0</RefrigerantAmountAdded>
  <RefrigerantAmountRemoved>10.0</RefrigerantAmountRemoved>
  <LeakDetectionMethod>Bubble Test</LeakDetectionMethod>
  <ChargePurpose>Leak Repair</ChargePurpose>
  <RetrofitTime>0</RetrofitTime>
  <DateLeakDetected>2010-08-10</DateLeakDetected>
  <DateLeakRepaired>2010-08-13</DateLeakRepaired>
  <InitialVerificationTestDate>2010-08-17</InitialVerificationTestDate>
  <FollowUpVerificationTestDate>2010-08-19</FollowUpVerificationTestDate>
  <CauseOfLeakDescription>Refrigerant added as Seasonal Adjustment</CauseOfLeakDescription>
  <TechnicianName>Mr Peter Bense</TechnicianName>
  <TechnicianCertificateNumber>AC324234</TechnicianCertificateNumber>
  <TechnicianCertificateType>Text</TechnicianCertificateType>
  <AdditionalComments>comments</AdditionalComments>
</ServiceRecordDetail>
</ServiceRecordList>
  
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</RefrigerantSystems>
</ALDDetail>
- <ALDServiceRecordList>
- <ALDServiceRecordDetail>
  <ALDServiceDate>2010-08-19</ALDServiceDate>
  <ALDServiceType>Audit</ALDServiceType>
  <DetectionLimit>11</DetectionLimit>
  <AlarmSetPoint>11</AlarmSetPoint>
  <ServiceDescription>testppp</ServiceDescription>
</ALDServiceRecordDetail>
- <ALDServiceRecordDetail>
  <ALDServiceDate>2010-08-19</ALDServiceDate>
  <ALDServiceType>Audit</ALDServiceType>
  <DetectionLimit>13</DetectionLimit>
  <AlarmSetPoint>13</AlarmSetPoint>
  <ServiceDescription>testqqq</ServiceDescription>
</ALDServiceRecordDetail>
</ALDServiceRecordList>
</ALD>
  
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## Uploading the XML File



- **Validate File**
  - R3 login page Red Bar link
    - 'Test Your XML'
- **Upload**
  - After login – Registration or Annual Reporting Red Bar link
    - Batch Upload V1 or V2
    - Must be Company Admin type user

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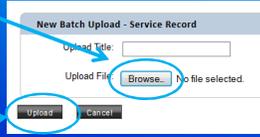
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## Uploading the XML File



- Browse to file on your computer
- Upload



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## Creating an XML File



- Third Party Refrigerant Management Software Vendor
- User designed database program
- Edit and Update the example XML
- Excel to XML

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## Format of the XML File



- Facility 1
  - Facility name, address, contact, etc.
  - Refrigeration system
    - Refrigeration system service records
  - Refrigeration system
    - Refrigeration system service records
  - ALD system
    - ALD system service records
  - ALD system
    - ALD system service records
- Facility 2

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--<ARBR SchemaVersion="1.0" xmlns:NamespaceSchemaLocation="..webroot\
--<ManageCompany>
--<FacilityListing>
--<FacilityProfile>
<FacilityName>MY facility test9</FacilityName>
<OperationalDate>1997-08-13</OperationalDate>
+<LocationAddress></LocationAddress>
+<MailingAddress></MailingAddress>
+<PrimaryContact></PrimaryContact>
<NAICSCode>11111</NAICSCode>
<SICCode>22222</SICCode>
--<RefrigerantSystemList>
--<RefrigerantSystem>
+<RefrigerantSystemDetail></RefrigerantSystemDetail>
--<ServiceRecordList>
+<ServiceRecordDetail></ServiceRecordDetail>
--<ServiceRecordList>
--<RefrigerantSystem>
+<RefrigerantSystemDetail></RefrigerantSystemDetail>
--<ServiceRecordList>
+<ServiceRecordDetail></ServiceRecordDetail>
--<ServiceRecordList>
--<RefrigerantSystem>
+<RefrigerantSystemDetail></RefrigerantSystemDetail>
--<ServiceRecordList>
--<ALDList>
--<ALD>
+<ALDDetail></ALDDetail>
--<ALDServiceRecordList>
+<ALDServiceRecordDetail></ALDServiceRecordDetail>
--<ALDServiceRecordList>
--<ALD>
--<ALDList>
--<FacilityProfile>
--<FacilityListing>
--<ManageCompany>
--<ARBR>

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### Edit Example XML File

- Download from R3
- Replace example facility information
- Replace example refrigeration system information
- Additional refrigeration systems
  - Copy first system and paste below first
  - Replace system information with next system information




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### Edit Example XML File

- Replace example ALD system information
- Additional ALD system
  - Copy first ALD system and paste below first
  - Replace ALD system information with next system information
- Copy first facility and repeat for next facility
- Save 'Registration XML' file




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### Excel to XML File

- Download mapped Excel files
- Facility profile
  - 'R3 Facility xml mapped.xlsx'
  - Enter name, address, contact, etc. for each facility within the company
  - Export as xml

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### Excel to XML File

- Refrigeration system information
  - 'R3 System xml mapped.xlsx'
  - Enter information for all systems at each facility
    - Separate file for each facility
    - All systems at all facilities in one file
  - Export as xml

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### Excel to XML File

- ALD system information
  - 'R3 ALD xml mapped.xlsx'
  - Enter information for all ALD systems at each facility
    - Separate file for each facility
    - All ALD systems at all facilities in one file
  - Export as xml

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### Excel to XML File



- Create 'Registration XML' file
  - Open facility xml file
  - Open system and ALD xml file(s)
  - Copy and insert refrigeration system information into facility xml file
  - Copy and insert ALD information into facility xml file
- Save as 'Registration XML' file

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### Excel to XML File



- Refrigeration system service records
  - 'R3 Service xml mapped.xlsx'
  - Enter refrigeration system service records
    - Separate file for each refrigeration system
    - All service records for all systems in one file
- Export as xml

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### Excel to XML File



- ALD system service records
  - 'R3 ALD xml mapped.xlsx'
  - Enter ALD system service records
    - Separate file for each ALD system
    - All service records for all ALD systems in one file
- Export as xml

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### Excel to XML File

- Create 'upload' xml file
  - Open new copy of 'Registration XML' file
  - Open refrigeration system service record and ALD service record xml files
  - Copy and insert refrigeration system service records into xml file
  - Copy and insert ALD service records into xml file
- Save 'upload' xml file, upload to R3

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### Uploading the XML File

- Validate File
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    - 'Test Your XML'
- Upload
  - After login – Registration or Annual Reporting Red Bar link
    - Batch Upload V1 or V2
    - Must be Company Admin type user

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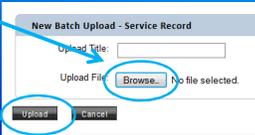
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### Uploading the XML File

- Browse to file on your computer
- Upload



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## QUESTIONS?

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## Resources

- Website
  - R3 tool website:  
[www.arb.ca.gov/rmp-r3](http://www.arb.ca.gov/rmp-r3)
  - RMP Program website:  
[www.arb.ca.gov/stoprefrigerantleaks](http://www.arb.ca.gov/stoprefrigerantleaks)  
[www.arb.ca.gov/cc/reftrack/reftrack.htm](http://www.arb.ca.gov/cc/reftrack/reftrack.htm)
- Hotline  
(916) 324-2517
- Email  
[reftrackinfo@arb.ca.gov](mailto:reftrackinfo@arb.ca.gov)
- Listserve  
Sign up on website

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## ARB Contacts

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916.327.0604  
[pgupta@arb.ca.gov](mailto:pgupta@arb.ca.gov)

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