1. (建議)Guard Clauses, 建議可以改成綠色的寫法

2. 紅色的 ApplicableDate 可以直接放在 Query 裡面, 不用另外 New 一個變數放
3. 橘色的 IF 其實是在判斷同一件事, 可以寫在一起就好減少複雜度

4. 請整理好程式碼的排版
5. 請移除沒有意義的空行
6. 請移除不需要的程式碼

```
345                           FROM      CHARGE_CODE_COUNTRY_CITY_APPLY
346                           WHERE    FK_CHCO_ID = :FK_CHCO_ID ";
347
348
349           if (!string.IsNullOrWhiteSpace(sqlRelatedSetting)) sqlStr += sqlRelatedSetting;
350           CoutryCityApplyList = MisRepository.Query<CountryCityApplyDataModel>(sqlStr
351                   , new
352                   {
353                       FK_CHCO_ID = searchModel.ChargeCodeID,
354                       ApplicableDate = ApplicableDate
355                   }).ToList();
356           }
357
358
359
360
361       if (CoutryCityApplyList.IsAny())
362       {
363
364
365           //Convert.ToDateTime(completeTimestamp.ToString("yyyy/MM/dd") + " 00:00:00");
366           //CoutryCityApplyList =   CoutryCityApplyList.Where(x => x.EffectiveDate < applicableDate).ToList();
367
368           CoutryCityApplyList.ForEach(x =>
369           {
370               x.EffectiveDate = DateTime.Parse(x.EffectiveDate).ToString("yyyy/MM/dd");
371               x.ExpiryDate = DateTime.Parse(x.ExpiryDate).ToString("yyyy/MM/dd");
372               x.LAST_UPDATED_TIMESTAMP = DateTime.Parse(x.LAST_UPDATED_TIMESTAMP).ToString();
373           });
374
```

7. 這裡是想要對日期欄位做 Format

```
368       CoutryCityApplyList.ForEach(x =>
369       {
370           x.EffectiveDate = DateTime.Parse(x.EffectiveDate).ToString("yyyy/MM/dd");
371           x.ExpiryDate = DateTime.Parse(x.ExpiryDate).ToString("yyyy/MM/dd");
372           x.LAST_UPDATED_TIMESTAMP = DateTime.Parse(x.LAST_UPDATED_TIMESTAMP).ToString();
373       });
374
375       CoutryCityApplyList.Where(x => x.ExpiryDate.IndexOf("0001") >= 0).ToList().ForEach(x => x.ExpiryDate = "");
376
```

有兩個選擇可以簡化

1. 直接用 SQL 做 Format

```
SELECT  ID,
        COUNTRY CountryCode,
        CITY CityCode,
        TO_CHAR(EFFECTIVE_DATE,'YYYY/MM/DD') AS EffectiveDate,
        DECODE(EXPIRY_DATE,'0001/01/01 00:00:00','',TO_CHAR(EXPIRY_DATE,'YYYY/MM/DD')) AS ExpiryDate ,
        FK_CHCO_ID,
        ALL_DESTINATION_IND All_Ind,
        LAST_UPDATED_BY_USERID,
        TO_CHAR(LAST_UPDATED_TIMESTAMP,'YYYY/MM/DD HH24:MI:SS')
    FROM    CHARGE_CODE_COUNTRY_CITY_APPLY;
```

2. 這裡寫了 Foreach 又寫了 Where, 實際上會執行兩次迴圈, 然後對 ExptryDate 又做了兩次處理, 以上問題可以簡化成這樣:

```
CoutryCityApplyList.ForEach(x =>
{
    x.EffectiveDate = x.EffectiveDate.ToDateTime().ToString("yyyy/MM/dd");
    x.ExpiryDate = (x.ExpiryDate.ToDateTime()==DateTime.MinValue)
                    ?""
                    :x.ExpiryDate.ToDateTime().ToString("yyyy/MM/dd");
    x.LAST_UPDATED_TIMESTAMP = x.LAST_UPDATED_TIMESTAMP.ToDateTime().ToString();
});
```

8. 請移除沒有意義的空行
9. 請移除不需要的程式碼


```
674                        FROM    CHARGE_CODE_COUNTRY_CITY_APPLY
675                        WHERE  FK_CHCO_ID = :FK_CHCO_ID";
676
677        orgCountryCityData = MisRepository.Query<ChargeCodeCountryCityDataModel>(sqlStr
678                , new { FK_CHCO_ID = dataModel.ID }).ToList();
679
680
681
682
683        bool updateFlag = true;
684        //string historyInsertFlog ="";
685
686        CHARGE_CODE_COUNTRY_CITY_HIS historyModel = new CHARGE_CODE_COUNTRY_CITY_HIS();
687
688
689
690    #region maintain 資料檢核
691
692
693    if (newCountryCityData.IsAny())
694    {
```

10. 要判斷 DateTime 是不是有值可以用 EXPIRY_DATE==DateTime.MinValue
11. (建議)Guard Clauses, i!=j 可以改成 if(i==j){ continue;}
    減少大括號的層級跟複雜度
12. 整理程式碼的排版


```
690    #region maintain 資料檢核
691
692
693    if (newCountryCityData.IsAny())
694    {
695
696        for (int i = 0; i < newCountryCityData.Count(); i++)
697        {
698            //檢查所有Effective不可大於Expiry Date
699            if (newCountryCityData[i].EFFECTIVE_DATE > newCountryCityData[i].EXPIRY_DATE &&
700            newCountryCityData[i].EXPIRY_DATE.ToString().IndexOf("0001/1/1 ") < 0)
701            {
702                duplicateMSGList.Add(string.Format("[{0}]{1}{2}", newCountryCityData[i].COUNTRY,
703                                                    newCountryCityData[i].CITY,
704                                                    msgResource.COMMON_STRAT_END_DATE_VALIDATE));
705                duplicateFlag += 1;
706            }
707
708            for (int j = 0; j < newCountryCityData.Count(); j++)
709            {
710                if (i != j)
711                {
712                    //檢查相同Country/CityCountry
713                    if ((newCountryCityData[i].COUNTRY == newCountryCityData[j].COUNTRY && newCountryCityData[i].CITY == newCountryCityData[j].CITY)
714                    || newCountryCityData[i].CITY == newCountryCityData[j].CITY)
715                    {
716
717                        //判斷生效期間是否重疊
718                        DuplicateMSG = CommonFunc.DateIntervalDuplicateCheck(newCountryCityData[i].EFFECTIVE_DATE,
719                                                                            newCountryCityData[i].EXPIRY_DATE,
720                                                                            newCountryCityData[j].EFFECTIVE_DATE,
721                                                                            newCountryCityData[j].EXPIRY_DATE);
```

13. Var 可以改成 ModelComparer<ChargeCodeCountryCityDataModel>


```
744        #endregion
745
746        var compares = ModelComparer.Create(orgCountryCityData, newCountryCityData, m => m.ID, m => m.FK_CHCO_ID);
747
748
749        using (TransactionScope ts = new TransactionScope())
750        {
```

14. 這裡用 if…else if…, 所以 Add/Update/Delete 一次只能做一個?

```
using (TransactionScope ts = new TransactionScope())
{
    #region Insert
    if (compares.Insert.Any())
    {
        foreach (ChargeCodeCountryCityDataModel item in compares.Insert)...
    }
    #endregion Insert
    #region Update
    else if (compares.Update.Any())
    {
        foreach (ChargeCodeCountryCityDataModel item in compares.Update)...
    }
    #endregion update
    #region Delete
    else if (compares.Delete.IsAny())
    {
        foreach (ChargeCodeCountryCityDataModel item in compares.Delete)...
    }
    #endregion Delete
    if (updateFlag && historyUpdateFlag)
    {
        ts.Complete();
        resultMSG.RETURN_FLAG = true;
    }
    else
    {
        resultMSG.RETURN_FLAG = false;

    }
}
```

15. 組 DB Model 的程式碼因為有 Insert/Update/Delete 所以寫了三次, 應該抽出來變成一個 Function, 減少重複程式碼

```
CHARGE_CODE_COUNTRY_CITY_APPLY CountryCityList = new CHARGE_CODE_COUNTRY_CITY_APPLY();
CountryCityList.ID = ServiceHelper.Create<INCWDBHelpService>().GetSeqNo("CCCC_SEQ");
CountryCityList.CITY = item.CITY;
CountryCityList.COUNTRY = item.COUNTRY;
CountryCityList.EFFECTIVE_DATE = item.EFFECTIVE_DATE;
CountryCityList.EXPIRY_DATE = item.EXPIRY_DATE;
CountryCityList.ALL_DESTINATION_IND = item.ALL_DESTINATION_IND;
CountryCityList.FK_CHCO_ID = dataModel.ID;
CountryCityList.LAST_UPDATED_BY_USERID = User.LoginId;
CountryCityList.LAST_UPDATED_TIMESTAMP = DateTime.Now;
if (item.ALL_DESTINATION_IND != "Y")
{
    applicableAreaMaintainFlag = ApplicableAreaDataMaintain(item.ApplicableAreaData, CountryCityList.ID, 0, 0);
}
```

16. Create History 的地方除了 Action 跟 Description 其他欄位都差不多, 應該抽出來變成一個 Function, 減少重複程式碼

```
779        resultMSG.RETURN_FLAG = true;
780        historyModel.ID = ServiceHelper.Create<INCWDBHelpService>().GetSeqNo("CCCH_SEQ");
781        historyModel.ACTION = "Add";
782        historyModel.CHARGE_CODE = dataModel.CHARGE_CODE;
783        historyModel.CITY = string.IsNullOrWhiteSpace(item.CITY) ? " " : item.CITY;
784        historyModel.COUNTRY = item.COUNTRY;
785        historyModel.EFFECTIVE_DATE = item.EFFECTIVE_DATE;
786        historyModel.EXPIRY_DATE = item.EXPIRY_DATE;
787        historyModel.LAST_UPDATED_BY_USERID = CountryCityList.LAST_UPDATED_BY_USERID;
788        historyModel.LAST_UPDATED_TIMESTAMP = CountryCityList.LAST_UPDATED_TIMESTAMP;
789        historyModel.DESCRIPTION = item.ALL_DESTINATION_IND == "Y" ? "ALL(Y)" : "";
790
791        historyUpdateFlag = historyModel.Insert();
```

17. 排版問題, var 問題
18. 請處理失敗的錯誤訊息, 不然傳到上層看不出來哪裡失敗

19. GMTTimeList 用 FirstOrDefault 然後又.LOCAL_TIMESTAMP, List<Model> 的 Default 值是 Null, null.LOCAL_TIMESTAMP 會產生 Error
20. 我覺得這裡不用先把全部的 GMT 轉完之後回來再處理, 跟 Account 一樣放在迴圈裡做就可以了, 可以改用這一支 Common[ICommonREFSGeographyService.ConvertToGMT()]

21. (調整)User Name 改為新增 History 的時候就存到 DB 裡面(新增欄位 CHARGE_CODE_COUNTRY_CITY_HIS.LAST_UPDATED_USERNAME), 所以組合 History 的地方改成直接從 DB 讀, 就不用呼叫 Common 了

22. 這個 ViewBag 看起來沒有意義, 如果不需要就移除

23. 傳入值如果是 Model, 前面要加上[Bind(Exclude = "IsAdmin")](雖然沒意義但是規範)

24. 這個 var 是 string

25. 請移除不需要的程式碼

26. IsAny()本來就是回傳 Bool 值, 後面不須加? true : false

27. 說明一下這個 Region 裡面是甚麼

28. 底下有好多看起來是假資料或 Prototyping 用的程式碼, 勇敢地刪掉他吧

29. Result.FirstOrDefault 的 Default 值會是 Null, 請處理 resultItem 是 Null 的情況,不然這裡會產生 Exception

```csharp
0 個參考 | P23 駐點廠商 -吳尚鴻 +1 | 5 項變更 | 4 個工作項目
public PartialViewResult ChargeCodeDetail(long codeID)
{
    ChargeCodeDataModel model = new ChargeCodeDataModel();
    model.ID = codeID;
    if (codeID > 0)
    {
        List<ChargeCodeGridModel> result = ((List<ChargeCodeGridModel>)Cache.Get(GetGridKey(CacheList.ChargeCodeList)));
        if (result.IsAny())
        {
            ChargeCodeGridModel resultItem = result.Where(m => m.ID == codeID).FirstOrDefault();
            model.CHARGE_CODE = resultItem.ChargeCode;
            model.ID = resultItem.ID;
            model.DESCRIPTION = resultItem.Description;
        }
    }
}
```

30. 請移除不需要的程式碼

31. 真的要用請使用 Cache, 不要使用 Session 存放資料

```csharp
public JsonResult SearchCountryApplyList(CountryCityApplySearchModel searchModel)
{
    MSGReturnModel result = new MSGReturnModel();
    result.DESCRIPTION = msgResource.COMMON_NOT_FOUND;
    //Main Grid
    List<CountryCityApplyDataModel> datas = GetCountryCityApplyMainList();
    //Sub Grid
    List<CountryCityApplyDataModel> subDatas = GetCountryCityApplySubList();

    datas = datas.Where(m =>
        (string.IsNullOrWhiteSpace(searchModel.CountryCode) ? true : m.CountryCode == searchModel.CountryCode) &&
        (string.IsNullOrWhiteSpace(searchModel.CityCode) ? true : m.CityCode == searchModel.CityCode)).ToList();
    //subDatas = subDatas.Where(m =>
    //    (string.IsNullOrWhiteSpace(searchModel.CountryCode) ? true : m.CountryCode == searchModel.CountryCode) &&
    //    (string.IsNullOrWhiteSpace(searchModel.CityCode) ? true : m.CityCode == searchModel.CityCode) &&
    //    (string.IsNullOrWhiteSpace(searchModel.ChargeCode) ? true : m.ChargeCode == searchModel.ChargeCode) &&
    //    //(string.IsNullOrWhiteSpace(searchModel.ApplicableDate) ? true :
    //    //    (m.EffectiveDate.ToDateTime() <= searchModel.ApplicableDate.ToDateTime() &&
    //    //    ((string.IsNullOrWhiteSpace(m.ExpiryDate)) || m.ExpiryDate.ToDateTime() >= searchModel.ApplicableDat
    //    //)).ToList();

    datas = datas.Where(x => subDatas.Any(y => y.CountryCode == x.CountryCode && y.CityCode == x.CityCode)).ToList();

    Session["CountryApplyList"] = datas.ToList();
    Session["CountryApplySubList"] = subDatas.ToList();
```

32. 當 true 的時候已經會 Return 了, 這個 Else 可以拿掉

```javascript
function CHC002Search()
{
    if (!CHC002SearchCheck())
    {
        return false;
    }
    else
    {
        CHC002CountryApplyHistoryDataBind();
    }
}
```

33. 這個 searchModel 一開始是[]又馬上被定義成{}, 可以直接寫成
var searchModel= { … }

```javascript
function CHC002CountryApplyHistoryDataBind()
{
    var searchModel = [];
    searchModel =
    {
        CountryCode: $("#CHC002CountryCode").val(),
        CityCode: $("#CHC002CityCode").val(),
        ChargeCode: $("#CHC002ChargeCode").val(),
        Action: $("#CHC002Action").val()
    }
    $("#CHC002CountryApplyHistoryGrid").jqGrid("GridUnload");
    $("#CHC002CountryApplyHistoryGrid").jqGrid({
        url: CHC002.UrlList.urlCHC002CountryApplyHistoryDataBind,
        datatype: "json",
        mtype: "POST",
        postData: searchModel,
        jsonReader:
        {
```

34. (建議)colNames 可以寫在 colModel[label]，減少增減欄位時忘記同步的欄位名稱的困擾

```
118            },
119            colNames: ["ID", "Updated Time ( UTC )", "Updated by", "Action", "Country ( Region )", "City", "Charge Code", "Description"],
120            colModel: [
121                { name: "ID", align: "center", hidden: true },
122                { name: "UpdatedTime", width: "200px", align: "center", sortable: false },
123                { name: "UpdatedBy", width: "250px", align: "center", sortable: false },
124                { name: "Action", width: "100px", align: "center", sortable: false },
125                { name: "CountryCode", width: "170px", align: "center", sortable: false },
126                { name: "CityCode", width: "70px", align: "center", sortable: false },
127                { name: "ChargeCode", width: "130px", align: "center", sortable: false },
128                { name: "Description", width: "500px", align: "left", sortable: false },
129            ],
```

35. 這些都是 Default 值，不用特別寫

```
129            ],
130            multiselect: false,
131            rowNum: 20,
132            rowList: [20, 50, 80],
133            pager: "CHCO02CountryApplyHistoryPagger",
134            toppager: false,
135            viewrecords: true,
136            rownumbers: false,
137            hidegrid: false,
138            resizable: false,
139            width: 'auto',
140            height: "100%",
141            jsonReader: {    //讀JSON格式資料
142                repeatitems: false,
143            },
```

36. (建議)Guard Clauses，建議可以改成綠色的寫法

_CHCO01CountryCityApplyList.cshtml

```
127            loadComplete: function (data)
128            {
129                if (data.records == 0)
130                {
131                    $("#CHCO01CountryApplyListResult").hide();
132                }
133                else
134                {
135                    $("#CHCO01CountryApplyListResult").show();
136                    if (data.records <= 20)
137                    {
138                        $("#CHCO01CountryApplyListPagger").hide();
139                    }
140                    else
141                    {
142                        $("#CHCO01CountryApplyListPagger").show();
143                    }
144                }
145            },
```

_CHCO02CountryCityApplyListHistory.cshtml

```
148            loadComplete: function (data)
149            {
150                if (data.records == 0)
151                {
152                    $("#CHCO02CountryApplyHistoryGridDiv").hide();
153                }
154                else
155                {
156                    $("#CHCO02CountryApplyHistoryGridDiv").show();
157                    if (data.records <= 20)
158                    {
159                        $("#CHCO02CountryApplyHistoryPagger").hide();
160                    }
161                    else
162                    {
163                        $("#CHCO02CountryApplyHistoryPagger").show();
164                    }
165                }
166            }
167        });
168        }
169    </script>
```

```
3
4    if (data.records == 0)
5    {
6        $("#CHCO02CountryApplyHistoryGridDiv").hide();
7        return;
8    }
9    $("#CHCO02CountryApplyHistoryGridDiv").show();
10
11   if (data.records <= 20)
12   {
13       $("#CHCO02CountryApplyHistoryPagger").hide();
14       return;
15   }
16   $("#CHCO02CountryApplyHistoryPagger").show();
17
18
```

37. 變數要掛上流水號

38. 左大括號要換行

39. 簽入時記得拿掉 debugger

40. 這個 MSG 看起來被定義在 Index 裡面, 建議定義在自己這個 Partial View 裡面

41. 這裡有 Add 跟 Update，看起來只有傳入值不同寫了兩次；然後底下的判斷式寫了好多 if…else… 程式碼應該重構一下

```
176        //新增
177        if ($("#CHCO03ID").val() == 0) {
178            $.ajax({
179                url: urlCHCO03ChargeCodeSave,
180                type: "POST",
181                contentType: "application/json",
182                data: JSON.stringify({
183                    ID: $("#CHCO03ID").val(),
184                    CHARGE_CODE: $("#CHCO03ChargeCode").val(),
185                    DESCRIPTION: $("#CHCO03Description").val(),
186                }),
187            }).done(function (result) {
188
189                if (result.RETURN_FLAG) {
190                    alert(COMMON_SAVE_S);
191                    $("#CHCO03Tabs").show();
192                    $("#CHCO03ID").val(result.DESCRIPTION)
193                    $("#CHCO03Code").val($("#CHCO03ChargeCode").val());
194                    $("#CHCO03ChargeCode").prop("readonly", true);
195                    $('#CHCO00ChargeCodeDetailDialog').dialog('close');
196                    CHCO00Search();
197                }
198                else{
199                    alert(result.DESCRIPTION);
200                }
201            })
202        }
203        else{
204            if (!CHCO09CountryApplyDataCheck()) {
205                $("#CHCO03Step1").click();
206                alert(COMMON_FIELDS_REQUIRED);
207                return;
```