THE SOULTZ EGS PROJECT:

JURIDICAL AND ADMINISTRATIVE

ENVIRONMENT

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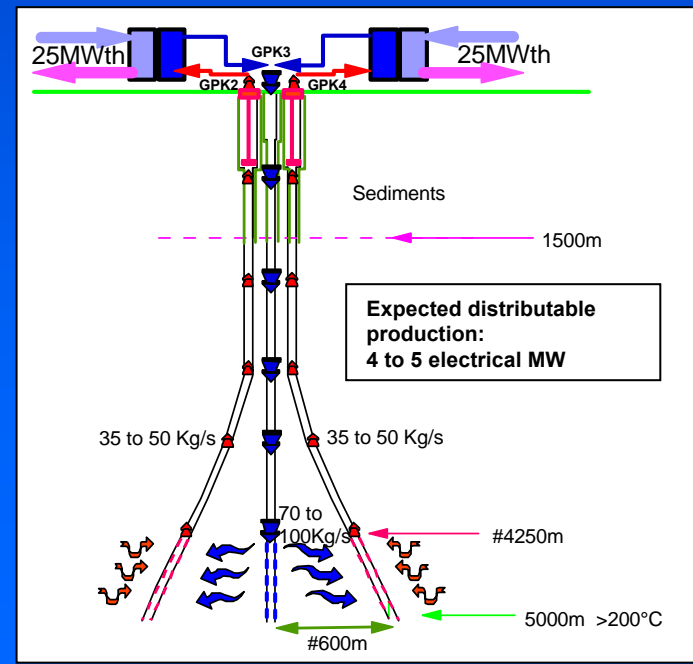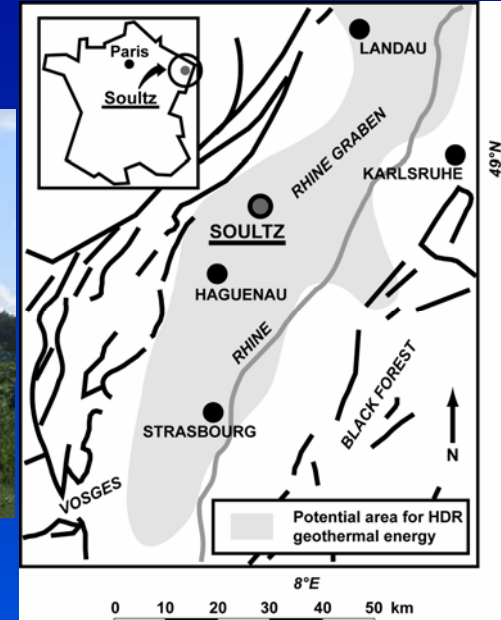
OUTLINE:

➢ **Overview of the Soultz EGS project**

➢ **Geothermal Research Exclusive Permit**

➢ **Exploration Workings Beginning Permit**

➢ **Exploitation Concession**

➢ **Plant Listed for Environment Conservation**

➢ **Conclusion**

OVERVIEW OF THE SOULTZ EGS PROJECT:

➢ **Project started in 1987, aiming at producing electrical power from geothermal energy**

➢ **First well (GPK1) drilled to 3600 m depth in 1993**

➢ **Three deep wells (GPK-2, -3 & -4) drilled to 5 km depth in 1999, 2002 and 2004 respectively**

➢ **First successful 2-wells circulation test in 1997**

➢ **Successful 3-wells circulation test in 2005**

➢ **Installation of the plant (Downhole production pumps, surface facilities, electrical production unit) in the second half of 2007**

➢ **Start of electrical production: scheduled for beginning of 2008**

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LANDAU
RHINE GRABEN
KARLSRUHE
SOULTZ
HAGUENAU
RHINE
BLACK FOREST
STRASBOURG
N
VOSGES
Potential area for HDR geothermal energy
0   10   20   30   40   50 km
8°E
49°N
Paris
Soultz

25MWth   GPK3   25MWth
GPK2   GPK4
Sediments
1500m
Expected distributable production:
4 to 5 electrical MW
35 to 50 Kg/s   35 to 50 Kg/s
70 to 100Kg/s   #4250m
5000m >200°C
#600m

ORGANIZATION:

- **Funding Partners** (Policy Group)

European Commission (EC)
ADEME (France)
BMU (Germany)
EEIG (*contributing members*)

- **EEIG Members**
(European Economic Interest Grouping)
Electricité de Strasbourg (ÉS)
Pfalzwerke (PW)
Electricité de France (EDF)
Energie Bade-Württemberg (EnBW)
STEAG
BESTEC *(non contributing member)*

- **EEIG Partners** (Consortium Agreement)

BRGM (France)
CNRS (France)
IFE (Norway)
DHM (Switzerland)
BGR (Germany)
GGA (Germany)
MeSy (Germany)
GTC (Germany)

- **Other Partners**
ARMINES (France)
GEOWATT (Switzerland)
EDF R&D (France & Germany)

Geothermal Research Exclusive Permit:

➢ **PER in French**

➢ **Determines an area within which the permit holder has exclusive rights of prospecting**

➢**Application file to be sent to Mining Minister, DRIRE and Prefect**

➢ **Put in competitive call for 1 month**

➢ **Need 5 to 12 months to get the answer (rejected if no answer after more than 2 years)**

➢ **Valid for 5 years at most, renewable twice at most (5 years max each time)**

PRO-1 [P.E.R. : Geothermal research exclusive permit]

Beginning of the application for a P.E.R.

Realize
with the support of the Regional Department for Industry, Research and Environment (DRIRE)
the documents *D1* to *D6*
that constitute the application file

Decree 2006-648 (Section 17)

Decree of the 28th July 1995 (Sections 2 to 6)

Project partner 1

5 to 12 months

R1
APPENDIX 9
D1 : Letter to the Mining Minister + clarification

R2
APPENDIX 9
D2 : Identification of the applicant Decree of the 28th July 1995 (Sections 2 & 3)

R3
APPENDIX 9 + CHAPTER 4
D3 : Technical memoir Decree of the 28th July 1995 (Section 4)

R4
APPENDIX 9 + CHAPTER 4
D4 : Workings' schedule and incurring Decree of the 28th July 1995 (Section 5)

R5
APPENDIX 9
D5 : Cartography Decree of the 28th July 1995 (Section 6)

APPENDIX 9 + CHAPTER 4
D6 : Impacts report

R6
Send the application file
Deliver
▪ 1 E.F. to the Mining Minister,
▪ 1 E.F. to the DRIRE,
▪ [(4 L.F.) x Nb Prefect(s)] to the DRIRE,
▪ and 1 L.F. to each Prefect
Decree of the 28th July 1995 (Section 9)

2 Entire files

[4 x (Nb. of Prefect(s)) + 1] Lite files

Keep up with the competitive call
Receive and meet the comments

D7 : Possible comments from the DRIRE

D8 : Answers

R7
Geothermal research exclusive permit granted ?

NO → End of the project

YES

R8
P.E.R. GRANTED

D9 : Decree that grants the P.E.R.

PRO-2 Management of the P.E.R.

R1 :
• Project, length of the permit
• Name of the permit
• Location and perimeter of the area
• Communes concerned

R2 :
• Structure and organisation
• Status (K-Bis)

R3 :
• Justification of the perimeter
• Technical section of the wells

R4 :
• Workings' schedule and incurring
• Technical abilities (resume, degrees, professionnal references, list of workings done)
• Financial capabilities (the Balances and profit and loss accounts of the 3 last years, guarantees and surety, incurring, minimum amount dedicated to research)
• Financial guarantee
• Agreement to the commitments

R5 :
• 1/100 000
• If Area < 50 km^2 : 1/20 000 and 1/25 000
• If 50 km^2 < Area < 500 km^2 : 1/50 000
Comment : The maps must be signed and have to conserve itselves well.

R6 :
E.F. : Entire file (constituted by documents D1 to D6)
L.F. : Lite file (constituted by documents D1, D5 and D6)

R7 :
Request rejected if no answer after more than 2 years.

R8 :
P.E.R valid 5 years at most
P.E.R. renewable 2 times at most (of 5 years max.) Mining Code (Section 9 & 10)
N.B. : The total validity of a P.E.R. can not go past 15 years.

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PRO-2 [Management of the P.E.R.]

P.E.R. GRANTED
[Valid 5 years at most]

Realize follow-up documents
Send it to the Prefect   R1

• Workings' schedule :
1 time per year before the 31st of December
• Report of workings achieved :
1 time per year at the beginning of the year
Decree 2006-648 (Sections 43 and 44)

D 52 : Workings' schedule

D 53 : Report of workings achieved

Analysis of the situation

Are there issue(s) involving an amendment of the P.E.R. ? NO

Workings accomplished and results expected reached ? NO

YES

Need to renounce the P.E.R. ?   NO   YES

Request to extend the P.E.R.
• Realize the application file
• Send the application file

D55 : Request file for extension
Decree of the 28th July 1995 Chapter II Section 2

Announce the renounciation to the P.E.R.
• Realize the application file
• Send the application file

D 54 : Request file for renounciation
Decree of the 28th July 1995 Chapter II Section 5

Apply for a concession
• Realize the application file
• Send the application file

PRO-5 Concession

Ask for the amodiation of the P.E.R.
• Realize the application file
• Send the application file

D56 : Request file for amodiation Decree of the 28th July 1995 Chapter II Section 3

Concession granted ?   NO   YES

Request to merge the P.E.R.
• Realize the application file
• Send the application file

D57 : Resquest file for fusion Decree of the 28th July 1995 Chapter II Section 4   R3

Request granted ?   NO

YES

End of the project

Exploitation allowed

Ask for the lenghtening of the P.E.R.   R2
• Realize the application file
• Send the application file

D58 : Request file for prolongation Decree of the 28th July 1995 Chapter II Section 1

Project partner 1

R1 :
• Send the workings' schedule of the end of the current year in the month following the attribution of the P.E.R.

R3 :
• Fusion of 2 or more P.E.R contiguous of the same validity

R2 :
• P.E.R. renewable 2 times at most.
• Request the prolongation 4 months before the end of the validity of the P.E.R.
• Prolongation of 5 years at most.
• The lite file is constituted by the request and the cartography

R2 (end) :
• Each of the polongation is legal when the applicant fulfiled the commitments and make the same level of incurring as the last agreement, depending on the validity lenght and the area requested.
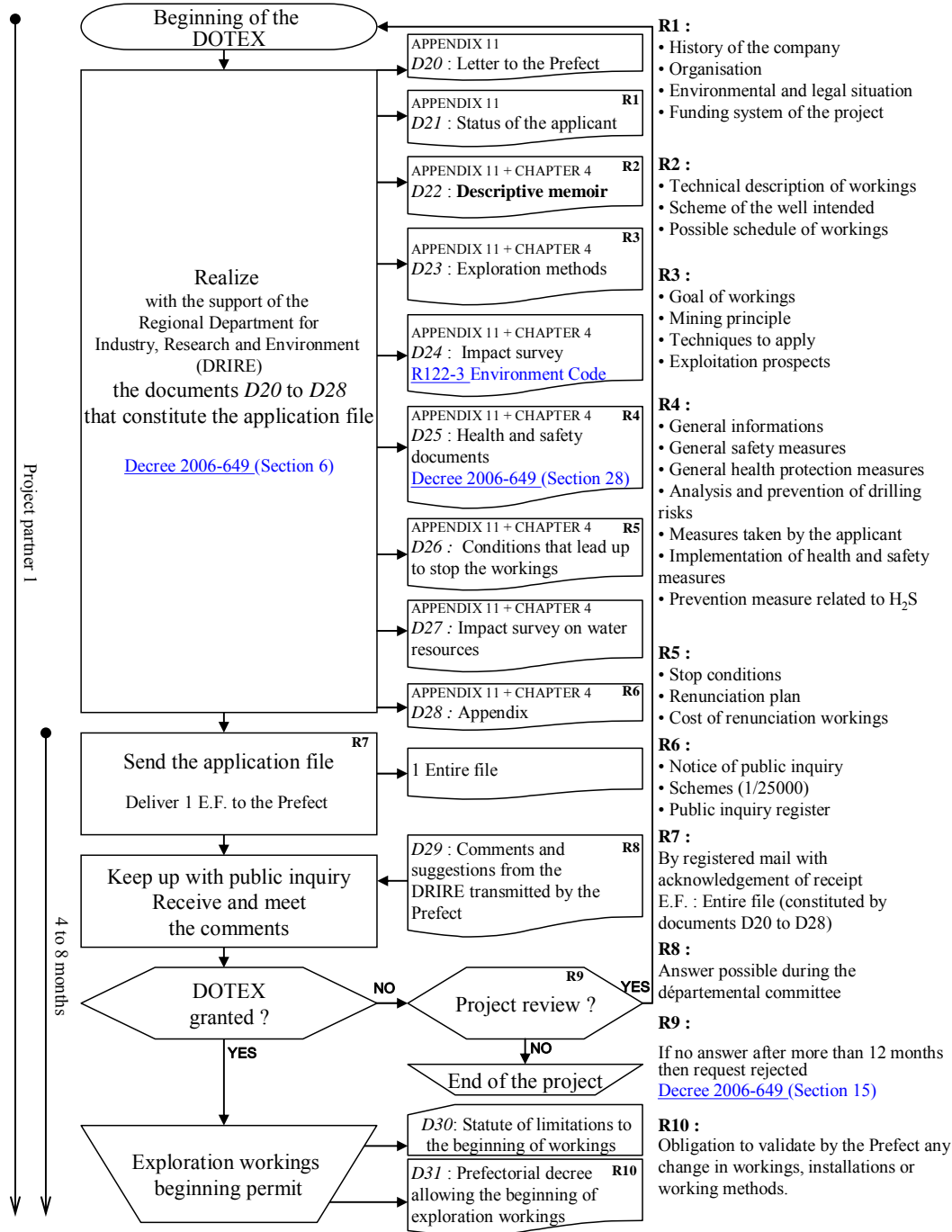
Exploration Workings Beginning Permit:

➢ **DOTEX in French**

➢ **Request to get the right to drill a well**

➢ **Application file to be sent to the Prefect**

➢ **Need a public inquiry**

➢ **Need 4 to 8 months to get the answer (rejected if no answer after more than 12 months)**

PRO-4 [DOTEX : Request for exploration workings beginning permit]
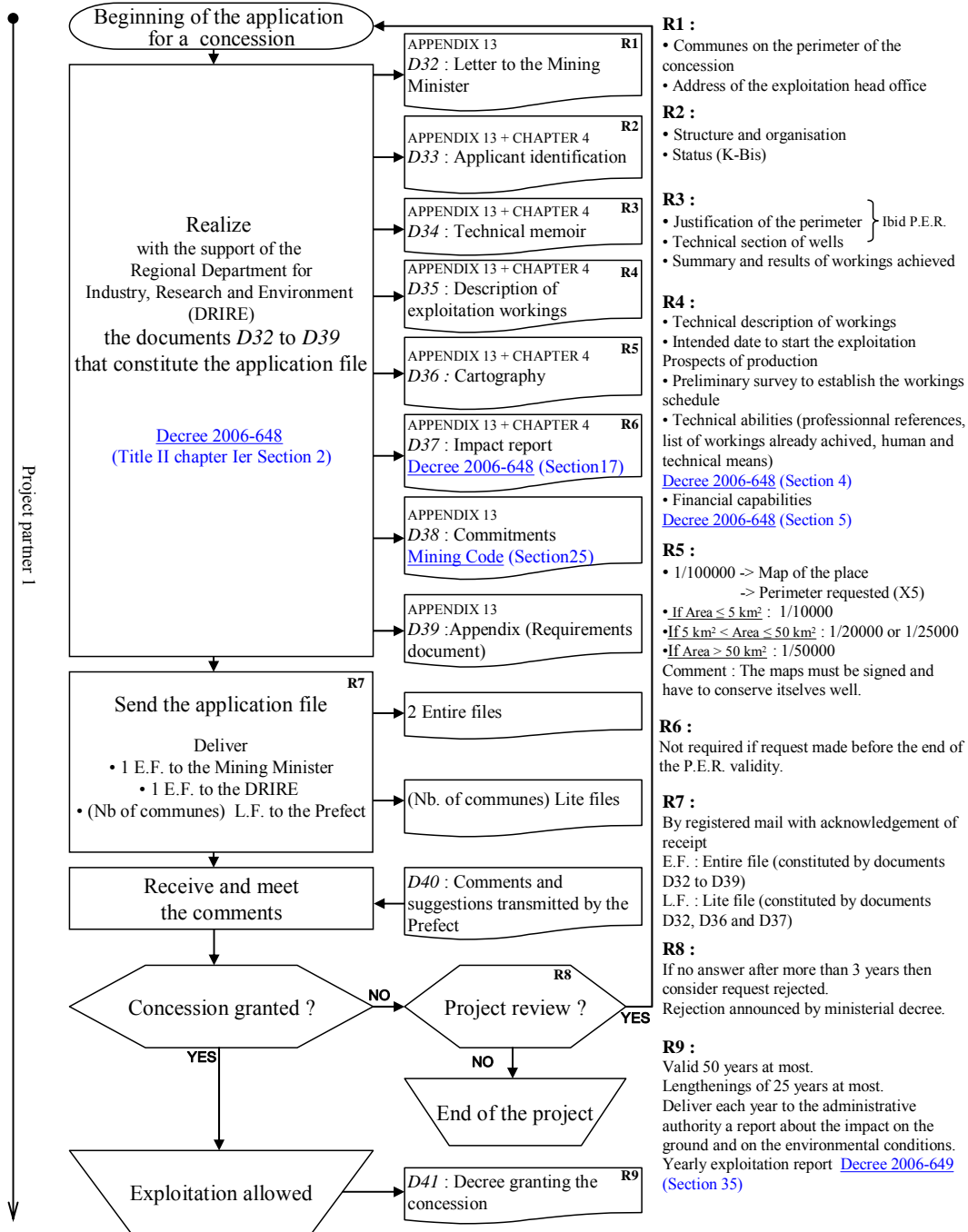
Beginning of the DOTEX

Realize with the support of the Regional Department for Industry, Research and Environment (DRIRE) the documents *D20* to *D28* that constitute the application file

Decree 2006-649 (Section 6)

APPENDIX 11
D20 : Letter to the Prefect

APPENDIX 11 **R1**
D21 : Status of the applicant

APPENDIX 11 + CHAPTER 4 **R2**
D22 : **Descriptive memoir**

APPENDIX 11 + CHAPTER 4 **R3**
D23 : Exploration methods

APPENDIX 11 + CHAPTER 4
D24 : Impact survey
R122-3 Environment Code

APPENDIX 11 + CHAPTER 4 **R4**
D25 : Health and safety documents
Decree 2006-649 (Section 28)

APPENDIX 11 + CHAPTER 4 **R5**
D26 : Conditions that lead up to stop the workings

APPENDIX 11 + CHAPTER 4
D27 : Impact survey on water resources

APPENDIX 11 + CHAPTER 4 **R6**
D28 : Appendix

Send the application file **R7**
Deliver 1 E.F. to the Prefect

1 Entire file

Keep up with public inquiry Receive and meet the comments

D29 : Comments and suggestions from the DRIRE transmitted by the Prefect **R8**

DOTEX granted ? — NO → **Project review ?** **R9** — YES
YES ↓   NO ↓

End of the project

Exploration workings beginning permit

D30: Statute of limitations to the beginning of workings

D31 : Prefectorial decree allowing the beginning of exploration workings **R10**

Project partner 1

4 to 8 months

R1 :
• History of the company
• Organisation
• Environmental and legal situation
• Funding system of the project

R2 :
• Technical description of workings
• Scheme of the well intended
• Possible schedule of workings

R3 :
• Goal of workings
• Mining principle
• Techniques to apply
• Exploitation prospects

R4 :
• General informations
• General safety measures
• General health protection measures
• Analysis and prevention of drilling risks
• Measures taken by the applicant
• Implementation of health and safety measures
• Prevention measure related to H_2S

R5 :
• Stop conditions
• Renunciation plan
• Cost of renunciation workings

R6 :
• Notice of public inquiry
• Schemes (1/25000)
• Public inquiry register

R7 :
By registered mail with acknowledgement of receipt
E.F. : Entire file (constituted by documents D20 to D28)

R8 :
Answer possible during the départemental committee

R9 :
If no answer after more than 12 months then request rejected
Decree 2006-649 (Section 15)

R10 :
Obligation to validate by the Prefect any change in workings, installations or working methods.

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Exploration workings beginning permit

Take into account potential new Prefect' statute of limitations :

Send within 15 days comments and measures taken

Decree 2006-649 (Section 16)

D62 : Comments and measures taken for the new statute of limitations.

Project partner1

Year round

Maintain technical abilities and financial capabilities
Decree 2006-648 (Section 43)
Build hydraulic plant required
Code Minier (Section 92)
Anticipate and monitor mining risks
Code Minier (Section 93 to 96)

Bring to the Prefect attention each change
Decree 2006-649 (Section 17 et 20)
Hold a health and safety document
Decree 2006-649 (Section 28)
Submit each accident to the Prefet
Decree 2006-649 (Section 29)
Hold a list of working accidents
Decree 2006-649 (Section 30)

D63 : Notice of change

D64 : Safety and health document

D65 : Statement of accident

D66 : List of working accidents

Workings

Respect obligation from Mining Code
(link with owners, neighbours, health, safety, salubrity)
Code Minier (Section 69 à 76 et 79)

Submit drillings to the mining chief engineer
Code Minier (Section 131)

Submit geophysical and geochemical measures
Code Minier (Section 133)

Realize an end of workings report
Code Minier (Section 91)

FOR-01 : Statement of drilling, underground work or exploration work

FOR-02 : Statement of geophysical and geochemical measures

D67 : End of workings report

Workings accomplished and results expected reached ?

NO

YES

End of exploration workings

Exploitation Concession:

➢ **Request to get the exploitation rights on the discovered geothermal field**

➢ **Application file to be sent to Mining Minister, DRIRE and Prefect**

➢ **Has to be requested 2 years before end of the PER**

➢**Rejected if no answer after more than 3 years**

➢ **Valid for 50 years at most, can be lengthen for 25 years**

PRO-5 [Request for Concession]

Beginning of the application for a concession

Realize with the support of the Regional Department for Industry, Research and Environment (DRIRE) the documents *D32* to *D39* that constitute the application file

Decree 2006-648 (Title II chapter Ier Section 2)

APPENDIX 13 **R1**
D32 : Letter to the Mining Minister

APPENDIX 13 + CHAPTER 4 **R2**
D33 : Applicant identification

APPENDIX 13 + CHAPTER 4 **R3**
D34 : Technical memoir

APPENDIX 13 + CHAPTER 4 **R4**
D35 : Description of exploitation workings

APPENDIX 13 + CHAPTER 4 **R5**
D36 : Cartography

APPENDIX 13 + CHAPTER 4 **R6**
D37 : Impact report
Decree 2006-648 (Section17)

APPENDIX 13
D38 : Commitments
Mining Code (Section25)

APPENDIX 13
D39 :Appendix (Requirements document)

Send the application file **R7**

Deliver
• 1 E.F. to the Mining Minister
• 1 E.F. to the DRIRE
• (Nb of communes) L.F. to the Prefect

2 Entire files

(Nb. of communes) Lite files

Receive and meet the comments

D40 : Comments and suggestions transmitted by the Prefect

Concession granted ? — NO → **Project review ?** **R8** — YES

YES ↓ / NO ↓

End of the project

Exploitation allowed

D41 : Decree granting the concession **R9**

Project partner 1

R1 :
• Communes on the perimeter of the concession
• Address of the exploitation head office

R2 :
• Structure and organisation
• Status (K-Bis)

R3 :
• Justification of the perimeter ⎫ Ibid P.E.R.
• Technical section of wells ⎬
• Summary and results of workings achieved

R4 :
• Technical description of workings
• Intended date to start the exploitation Prospects of production
• Preliminary survey to establish the workings schedule
• Technical abilities (professionnal references, list of workings already achived, human and technical means)
Decree 2006-648 (Section 4)
• Financial capabilities
Decree 2006-648 (Section 5)

R5 :
• 1/100000 -> Map of the place
-> Perimeter requested (X5)
• If Area ≤ 5 km² : 1/10000
• If 5 km² < Area ≤ 50 km² : 1/20000 or 1/25000
• If Area > 50 km² : 1/50000
Comment : The maps must be signed and have to conserve itselves well.

R6 :
Not required if request made before the end of the P.E.R. validity.

R7 :
By registered mail with acknowledgement of receipt
E.F. : Entire file (constituted by documents D32 to D39)
L.F. : Lite file (constituted by documents D32, D36 and D37)

R8 :
If no answer after more than 3 years then consider request rejected.
Rejection announced by ministerial decree.

R9 :
Valid 50 years at most.
Lengthenings of 25 years at most.
Deliver each year to the administrative authority a report about the impact on the ground and on the environmental conditions.
Yearly exploitation report Decree 2006-649 (Section 35)

PRO-10 [Management of a Concession]

Exploitation permit
[Valid 50 years at most]

Assign one leadership
Mining Code (Section 78), Decree 2006-648 (Section 45)

R1 :
Lengthening of 25 years at most.

Pay the rent to the State (every year)
Mining Code (Section 30 bis)

Realize follow-up documents

Report on the impacts on ground and environmental conditions(once a year)
Mining Code (Section 77)

Exploitation report (send to the Prefect before the 31st March of each year)
Decree 2006-649 (Section 35-36)

Respect the requirements document   Decree 2006-648 (Section 45)

Put into practice exploitation methods that match economic conditions
Mining Code (Section 79-1)

Build hydraulic plant required Mining Code (Section 92)

Make available substances useful for nuclear energy Mining Code (Section 81)

Anticipate and monitor mining risks Mining Code (Section 93 à 96)

Maintain technical abilities and financial capabilities Decree 2006-648
(Section 43)

D71: Impact report

D72 : Exploitation report

Year round

Project partner 1

Request to extend the Concession
• Realize the application file
• Send the application file

D75 : Request file for extension
Decree of the 28th July 1995
Chapter II Section 2

Ask for the amodiation of the Concession
• Realize the application file
• Send the application file

D76 : Request file for amodiation
Decree of the 28th July 1995
Chapter II Section 3

Request to merge the Concession
• Realize the application file
• Send the application file

D77 : Resquest file for fusion Decree of the 28th July 1995
Chapter II Section 4

R1
Ask for the lengthening of the Concession
• Realize the application file
• Send the application file

D78 : Request file for prolongation
Decree of the 28th July 1995
Chapter II Section 1

Respect Mining Code obligations (Owner, Health, Security, Salubrity) Mining Code (Section 69-76 and 79)

Analysis of the situation

Are there issue(s) involving an amendement of the concession ?   **NO**

YES

NO   Need to renounce to the Concession ?   **YES**

Request granted ?   **NO**

YES

Announce the renounciation to the Concession
• Realize the application file
• Send the application file

D73 : Request file for renounciation
Decree of the 28th July 1995
Chapter II Section 5

End of exploitation

D74 : End of exploitation report
Mining Code (Section 91)

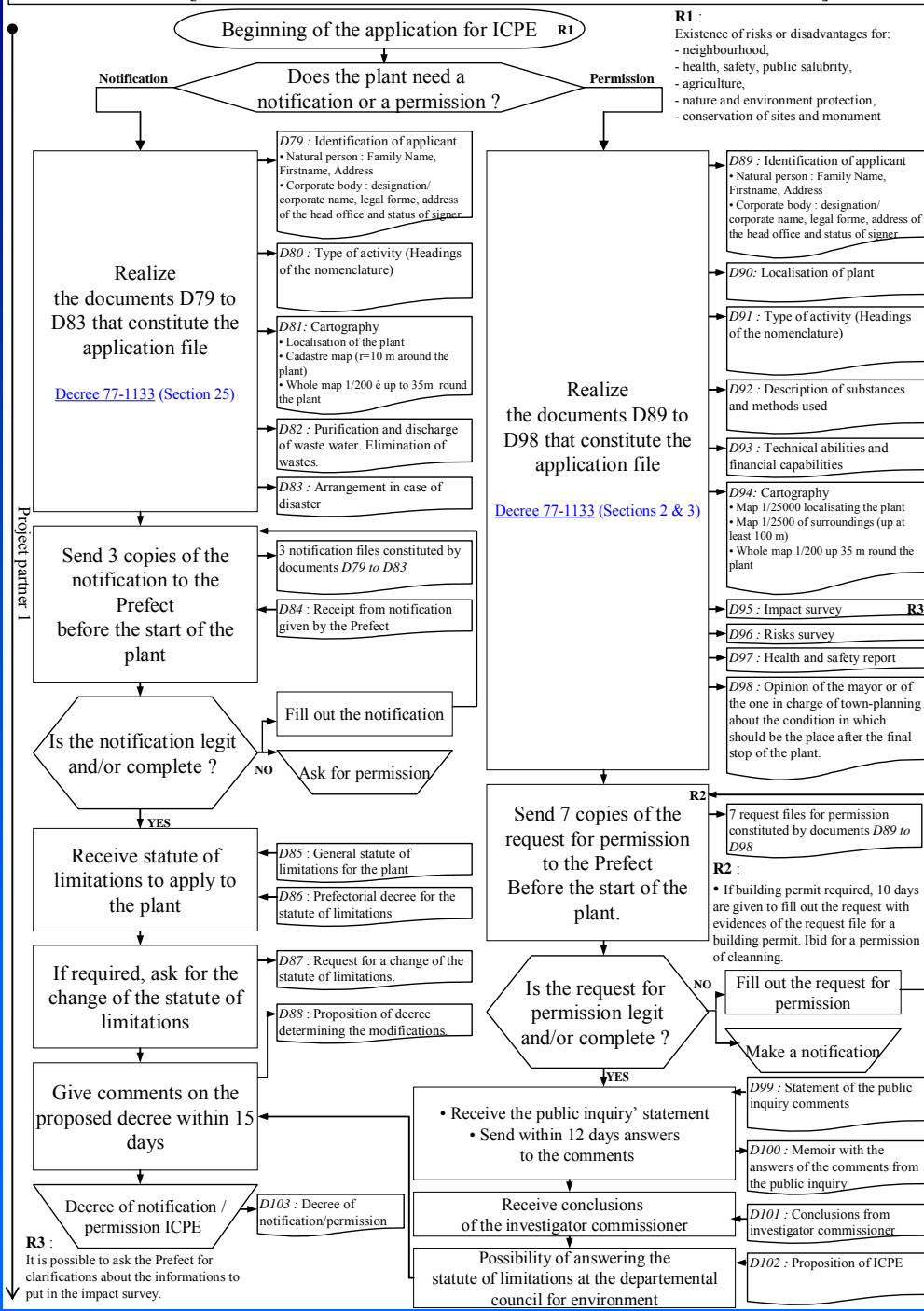# Plant listed for Environment Conservation:

➢ **Use of inflammable fluid in the power conversion unit → Plant listed for Environment Conservation (ICPE in french)**

➢ **Application file to be sent to Prefect**

➢ **2 cases: notification or permission**

➢ **Notification: procedure more simple**

➢ **Permission: need a public inquiry, report made by a commissioner after examination by different administrative authorities**

➢ **Application file could require at least 6 months to be fully studied**

PRO-11 [Statement of ICPE : Plant listed for Environmental Conservation]

Beginning of the application for ICPE R1

R1 :
Existence of risks or disadvantages for:
- neighbourhood,
- health, safety, public salubrity,
- agriculture,
- nature and environment protection,
- conservation of sites and monument

Does the plant need a notification or a permission ?

Notification ← → Permission

Project partner 1

Notification branch

Realize the documents D79 to D83 that constitute the application file

Decree 77-1133 (Section 25)

D79 : Identification of applicant
• Natural person : Family Name, Firstname, Address
• Corporate body : designation/ corporate name, legal forme, address of the head office and status of signer

D80 : Type of activity (Headings of the nomenclature)

D81: Cartography
• Localisation of the plant
• Cadastre map (r=10 m around the plant)
• Whole map 1/200 è up to 35m round the plant

D82 : Purification and discharge of waste water. Elimination of wastes.

D83 : Arrangement in case of disaster

Send 3 copies of the notification to the Prefect before the start of the plant

3 notification files constituted by documents *D79 to D83*

D84 : Receipt from notification given by the Prefect

Is the notification legit and/or complete ?

Fill out the notification

NO → Ask for permission

YES

Receive statute of limitations to apply to the plant

D85 : General statute of limitations for the plant

D86 : Prefectorial decree for the statute of limitations

If required, ask for the change of the statute of limitations

D87 : Request for a change of the statute of limitations.

D88 : Proposition of decree determining the modifications.

Give comments on the proposed decree within 15 days

Decree of notification / permission ICPE

D103 : Decree of notification/permission

R3 :
It is possible to ask the Prefect for clarifications about the informations to put in the impact survey.

Permission branch

Realize the documents D89 to D98 that constitute the application file

Decree 77-1133 (Sections 2 & 3)

D89 : Identification of applicant
• Natural person : Family Name, Firstname, Address
• Corporate body : designation/ corporate name, legal forme, address of the head office and status of signer

D90: Localisation of plant

D91 : Type of activity (Headings of the nomenclature)

D92 : Description of substances and methods used

D93 : Technical abilities and financial capabilities

D94: Cartography
• Map 1/25000 localisating the plant
• Map 1/2500 of surroundings (up at least 100 m)
• Whole map 1/200 up 35 m round the plant

D95 : Impact survey **R3**

D96 : Risks survey

D97 : Health and safety report

D98 : Opinion of the mayor or of the one in charge of town-planning about the condition in which should be the place after the final stop of the plant.

Send 7 copies of the request for permission to the Prefect Before the start of the plant. R2

7 request files for permission constituted by documents *D89 to D98*

R2 :
• If building permit required, 10 days are given to fill out the request with evidences of the request file for a building permit. Ibid for a permission of cleanning.

Is the request for permission legit and/or complete ?

NO → Fill out the request for permission

Make a notification

YES

• Receive the public inquiry' statement • Send within 12 days answers to the comments

D99 : Statement of the public inquiry comments

D100 : Memoir with the answers of the comments from the public inquiry

Receive conclusions of the investigator commissioner

D101 : Conclusions from investigator commissioner

Possibility of answering the statute of limitations at the departemental council for environment

D102 : Proposition of ICPE

PRO-12 [Management of the ICPE notification/permission]

ICPE notification/permission Decree **R1**

Did the plant start during the 3 years following the statement of notification/permission ?

YES → **NO** →

NO → Re-establish the notification or permission → PRO-11 Statement of ICPE

Notification/Permission re-established **YES**

NO

Review of the project for change

Does the statement of notification/permission need to be re-established ?

YES →

Notification/permission
• Work stop more than 2 consecutive years
Permission request
• Transfer, extension or change of facilities, change of methods leading to environmental risks
• Change of exploiter
• Re-work after a disaster
• Lengthening of a limited permission
• Nomenclature change, notification changed in permission

NO

Respect the decree' statute of limitations:

• Settlement and working conditions
• Analysis and measurement means required to control the plant and monitor the consequences on the Environment
• Requirements to handle results and measures to ICPE administration and water monitoring departement
• Measures taken in case of disaster
• Archeological limitations
• Final stop requirements
• Plant working check

D104 : Check of the working of the plant
Decree 77-1133 (Section 17-2)

D105 : Notification de modification
Decree 77-1133 (Section 20)

D108 : Statement of accident
Decree 77-1133 (Section 38)

Bring to the Prefect attention
• any change to the plant, the methods or neighbourhood
• any accident

Analysis of the situation

NO ← Is the final stop of the plant planned ?

YES

• Notify the Prefect of the date of the final stop 3 months prior to it
• Deliver to the mayor or to the person in charge of town-planning the maps of the site and surveys and/or reports on the environemental conditions

D106 : Notification of final stop
Decree 77-1133 (Section 34-1)

D107 : Maps, environmental surveys and list of activities on the site Decree 77-1133 (Section 34-2)

Final stop of the plant according to the statute of limitations

R1 :
If the plant requires a permission, workings can not be started before the end of the public inquiry.

Project partner1

Conclusion:

➢ **In France, there is no specific legislation for geothermal energy. All depends on the Mining Code.**

➢ **Numerous authorizations to get, before any stage of the development of the project.**

➢ **The examination of the requests for the different permits takes generally several months.**

➢ **The total duration of all administrative procedures, which are necessary to build a project, can be up to 3 years. In the best case, that is, without any opposition or complaints…**

PRO-3[Request for low temperature geothermal research permit] R1
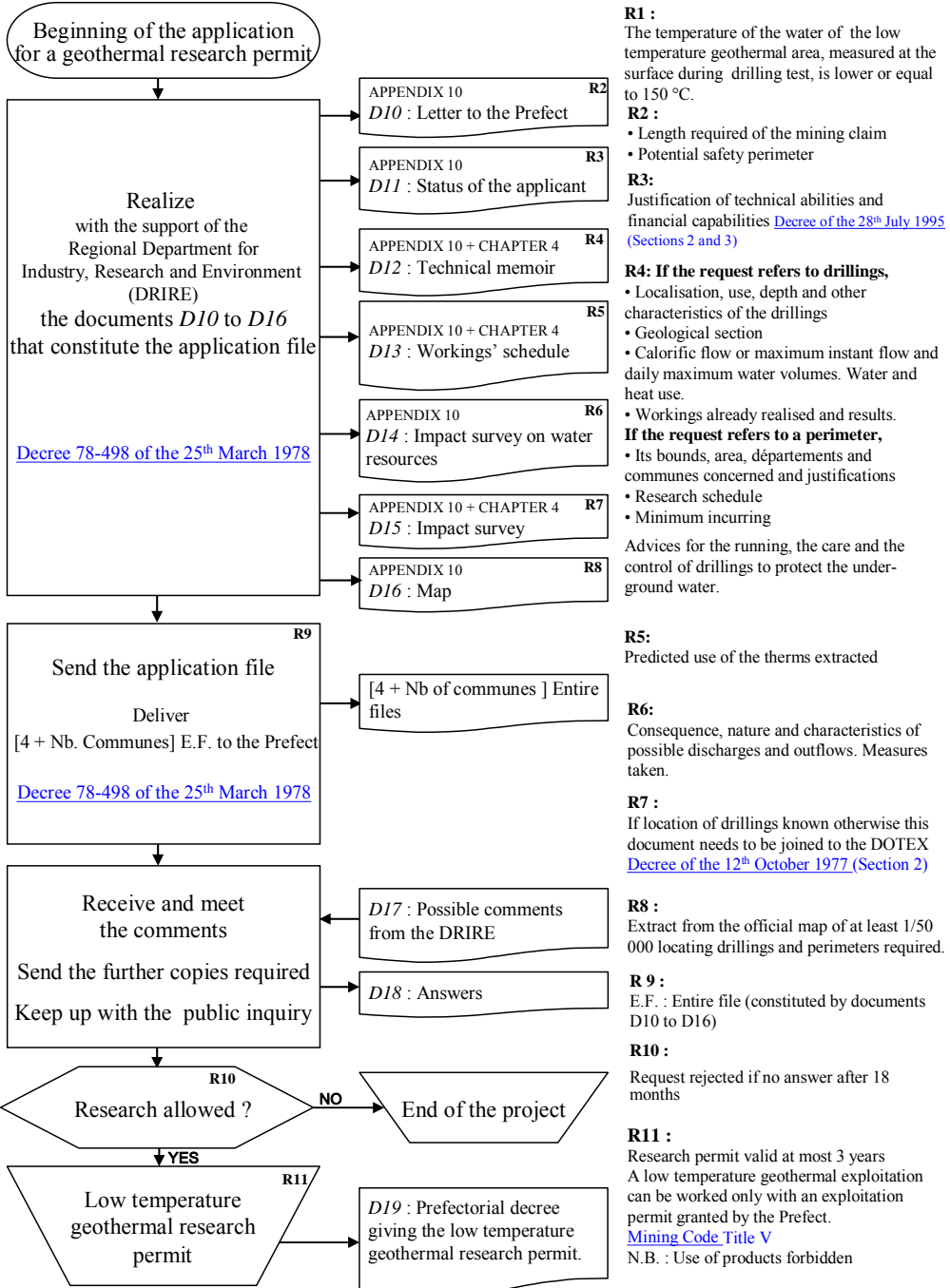
Project partner 1

Beginning of the application for a geothermal research permit

Realize
with the support of the
Regional Department for
Industry, Research and Environment
(DRIRE)
the documents *D10* to *D16*
that constitute the application file

Decree 78-498 of the 25th March 1978

R2 APPENDIX 10
D10 : Letter to the Prefect

R3 APPENDIX 10
D11 : Status of the applicant

R4 APPENDIX 10 + CHAPTER 4
D12 : Technical memoir

R5 APPENDIX 10 + CHAPTER 4
D13 : Workings' schedule

R6 APPENDIX 10
D14 : Impact survey on water resources

R7 APPENDIX 10 + CHAPTER 4
D15 : Impact survey

R8 APPENDIX 10
D16 : Map

R9
Send the application file

Deliver
[4 + Nb. Communes] E.F. to the Prefect

Decree 78-498 of the 25th March 1978

[4 + Nb of communes] Entire files

Receive and meet
the comments

Send the further copies required

Keep up with the public inquiry

D17 : Possible comments from the DRIRE

D18 : Answers

R10
Research allowed ?   NO → End of the project

YES

R11
Low temperature geothermal research permit

D19 : Prefectorial decree giving the low temperature geothermal research permit.

R1 :
The temperature of the water of the low temperature geothermal area, measured at the surface during drilling test, is lower or equal to 150 °C.

R2 :
• Length required of the mining claim
• Potential safety perimeter

R3:
Justification of technical abilities and financial capabilities Decree of the 28th July 1995 (Sections 2 and 3)

R4: If the request refers to drillings,
• Localisation, use, depth and other characteristics of the drillings
• Geological section
• Calorific flow or maximum instant flow and daily maximum water volumes. Water and heat use.
• Workings already realised and results.
If the request refers to a perimeter,
• Its bounds, area, départements and communes concerned and justifications
• Research schedule
• Minimum incurring

Advices for the running, the care and the control of drillings to protect the under-ground water.

R5:
Predicted use of the therms extracted

R6:
Consequence, nature and characteristics of possible discharges and outflows. Measures taken.

R7 :
If location of drillings known otherwise this document needs to be joined to the DOTEX Decree of the 12th October 1977 (Section 2)

R8 :
Extract from the official map of at least 1/50 000 locating drillings and perimeters required.

R 9 :
E.F. : Entire file (constituted by documents D10 to D16)

R10 :
Request rejected if no answer after 18 months

R11 :
Research permit valid at most 3 years
A low temperature geothermal exploitation can be worked only with an exploitation permit granted by the Prefect.
Mining Code Title V
N.B. : Use of products forbidden

PRO-7 [Management of low temperature geothermal research permit]

Low temperature geothermal research permit
[Valid 3 years at most]

Maintain the technical abilities and financial capabilities
Decree 2006-648 (Section 43)

Analysis of the situation

Are there issue(s) involving an amendment of the research permit ?
NO
YES

Workings accomplished and results expected reached ?
NO
YES

Need to renounce the research permit?
NO
YES

Apply for a low temperature geothermal exploitation permit
• Realize the application file
• Send the application file

PRO-6 Request for exploitation permit

R1
Request to extend the research permit
• Realize the application file
• Send the application file

D60 : Request file for extension
Decree of the 28th July 1995 Chapter II Section 2

R2
Announce the renounciation to the research permit
• Realize the application file
• Send the application file

D59 : Request file for renounciation
Decree of the 28th July 1995 Chapter II Section 5

R2
Ask for the amodiation of the research permit
• Realize the application file
• Send the application file

D61 : Request file for amodiation Decree of the 28th July 1995 Chapter II Section 3

Request granted ?
NO
YES

R3
Exploitation permit granted ?
NO
YES

End of the project

Low temperature geothermal exploitation permit

Project partner1

R1:
No answer for more than 18 months means that the request is rejected.
Decree 78-498 of the 28th March 1978 (Section 14)

R2:
No answer for more than 1 year means that the request is rejected.
Decree 78-498 of the 28th March 1978(Section 14)

R3:
« […]if workings proved that the geothermal plant can be worked and if the request is made before the end of validity of the research permit then the applicant is eligible for an exploitation permit. »
« Low temperature geothermal plants can not be worked without an exploitation permit granted by the Prefect.» Mining Code (Section 99)

PRO-6 [PEX : Low temperature geothermal exploitation permit] **R1**

R1 :
The temperature of the water of the low temperature geothermal area, measured at the surface during drilling test, is lower or equal to 150 °C.

Beginning of the application for a PEX

ANNEXE 12 **R2**
D42 : Letter to the Prefect

ANNEXE 12 **R3**
D43 : Status of the applicant

R2 :
• Length required of the mining claim
• Potential safety perimeter

R3:
Justification of technical abilities and financial capabilities Decree of the 28th July 1995 (Section 2 and 3)

Realize
with the support of the
Regional Department for
Industry, Research and Environment
(DRIRE)
the documents to *D48*
that constitute the application file

Decree 78-498 of the 25th March 1978

ANNEXE 12 + CHAPITRES 4 **R4**
D44 : Technical memoir

ANNEXE 12 + CHAPITRES 4 **R5**
D45 : Workings' schedule

ANNEXE 12 **R5**
D46 : Impact survey on water resources

ANNEXE 12 + CHAPITRE 4 **R6**
D47 : Impact survey

ANNEXE 12 **R7**
D48 : Map

R4:
• Calorific flow
• Exploitation volume
• Localisation of drillings to work
• Use, depth and other characteristics of drillings
Advices for the running, the care and the control of drillings to protect the under-ground water.

R5:
Consequence, nature and characteristics of possible discharges and outflows. Measures taken.

R6 :
If location of drillings known otherwise this document needs to be joined to the DOTEX Decree of the 12th October 1977 (Section 2)

R8
Send the application file

Deliver
[4 + Nb. Communes] E.F. to the Prefect

Decree 78-498 of the 25th March 1978

[4 + Nb of communes] Entire files

R7 :
Extract from the official map of at least 1/50 000 locating drillings and perimeters required.

R 8 :
E.F. : Entire file (constituted by documents D42 to D48)

R9
Receive and meet
the comments
Send the further copies required

Keep up with the public inquiry

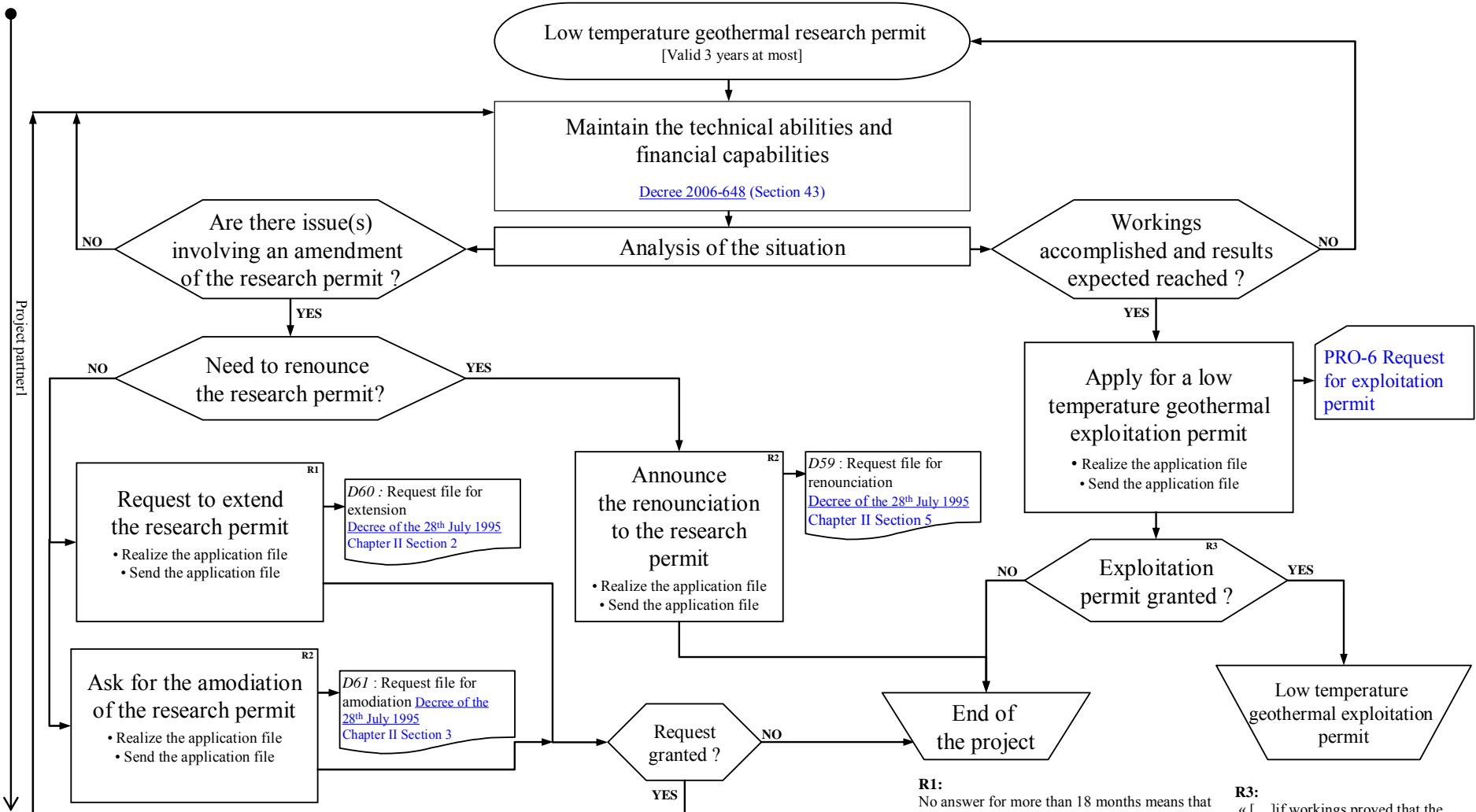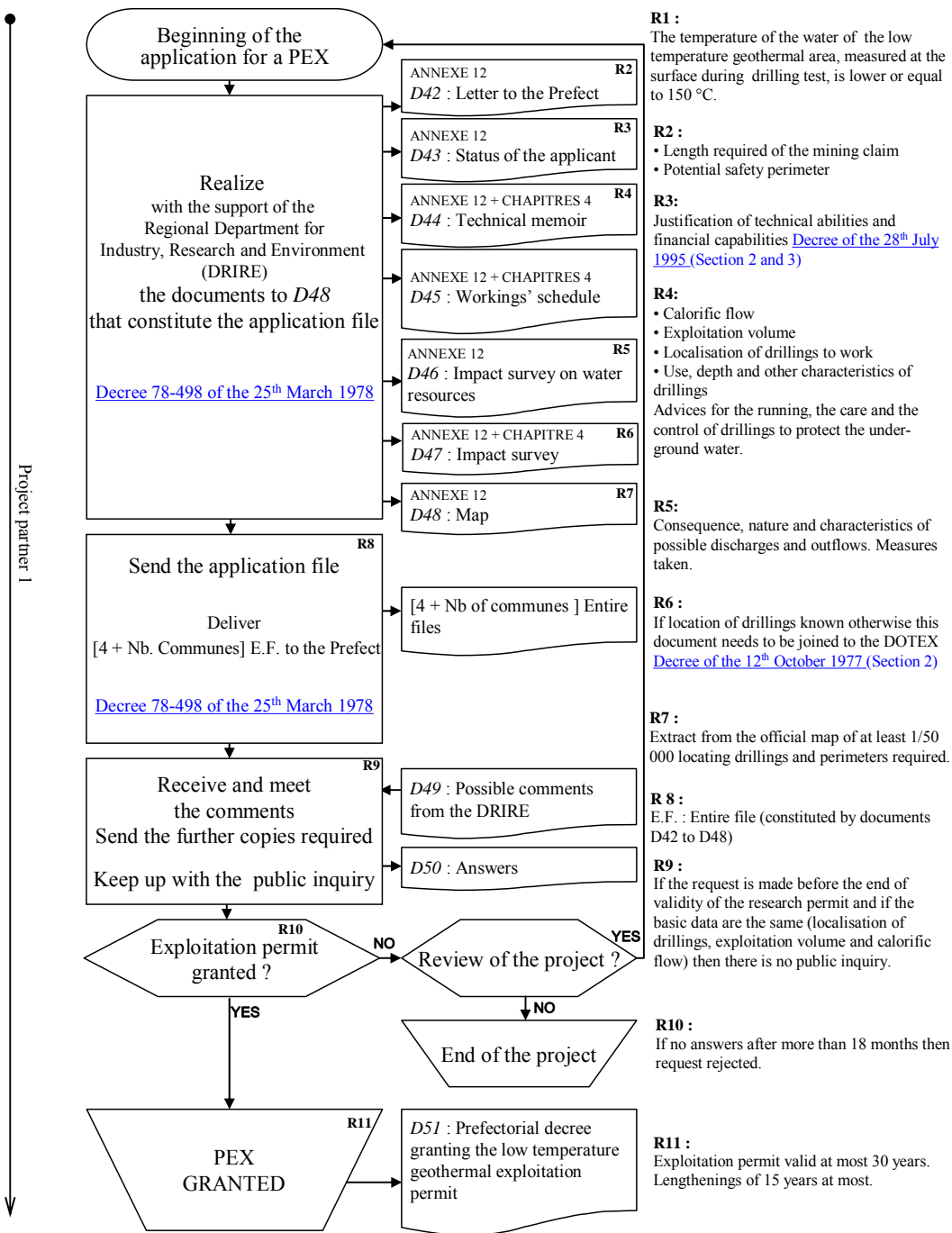*D49* : Possible comments from the DRIRE

D50 : Answers

R9 :
If the request is made before the end of validity of the research permit and if the basic data are the same (localisation of drillings, exploitation volume and calorific flow) then there is no public inquiry.

R10
Exploitation permit granted ?   NO   Review of the project ?   YES

YES

NO

End of the project

R10 :
If no answers after more than 18 months then request rejected.

R11
PEX GRANTED

D51 : Prefectorial decree granting the low temperature geothermal exploitation permit

R11 :
Exploitation permit valid at most 30 years. Lengthenings of 15 years at most.

Project partner 1

PRO-8 [Management of the PEX]

PEX granted
[Valid 30 years at most]

Pay the rent to the State (every year)
<u>Mining Code</u> (Section 30 bis)

Year round

Put into practice exploitation methods that match economic conditions
<u>Mining Code</u> (Section 79-1)

Anticipate and monitor mining risks
<u>Mining Code</u> (Section 93 to 96)

Maintain technical abilities and financial capabilities
<u>Decree 2006-648</u> (Section 43)

Workings

Respect agreements with owners
<u>Mining Code</u> (Section 69 to 76)

Respect health, safety and salubrity agreements
<u>Mining Code</u> (Section 79)

Project partner 1

Are there issue(s) involving an amendement of the PEX ?
NO / **YES**

R1 :
Lenghtenings of at most 15 years.

Need to renounce the PEX ?
YES / **NO**

Announce the renounciation to the PEX
• Realize the application file
• Send the application file

D68 : Request file for renounciation
<u>Decree of the 28th July 1995</u>
Chapter II Section 5

D69 : Request file for prolongation
<u>Decree of the 28th July 1995</u>
Chapter II Section 1

R1
Ask for the lenghtening of the PEX
• Realize the application file
• Send the application file

Request granted ?
NO / **YES**

End of exploitation

D70 : End of exploitation report